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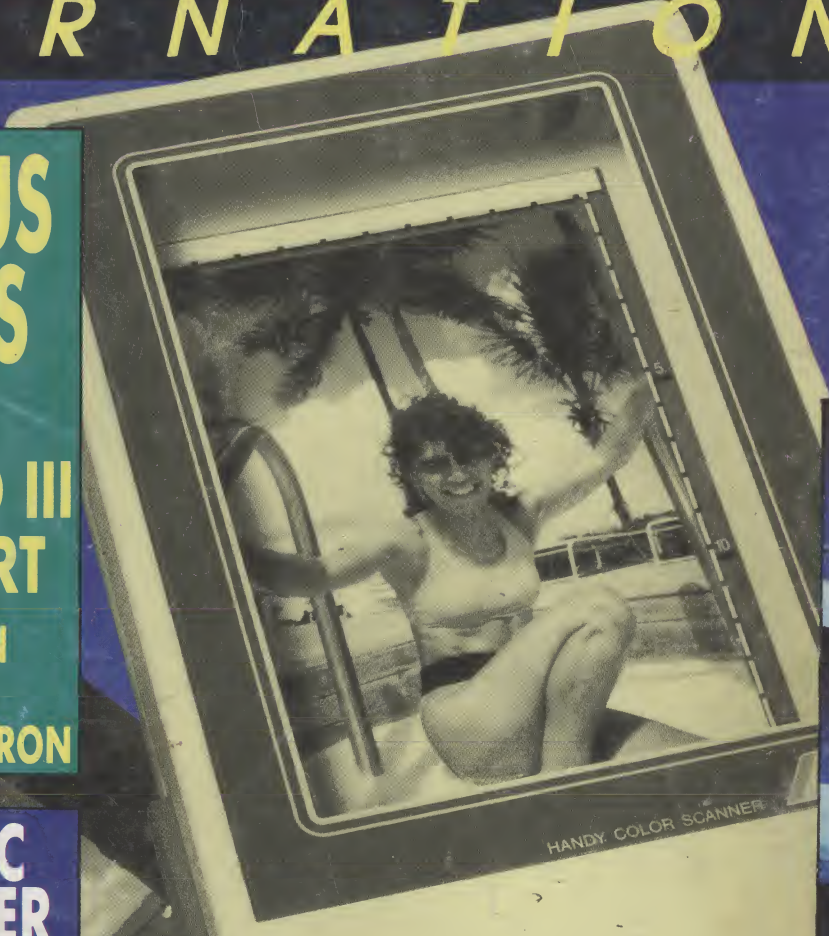

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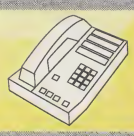

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THE AMIGA DIMENSION

When we launched Amiga User International as the first monthly Amiga magazine on this side of the Atlantic just two years ago, it is safe to say that nobody except us would have had the confidence to predict that Commodore would sell 200,000 Amigas in the U.K. Yet that 200,000th Amiga has just been sold here by Commodore. And the growth of the Amiga Dimension is still accelerating.

The audience for Amigas is building up because it is a reasonable guess that very few of those Amigas are not still being used and more and more eager buyers are joining in. One distributor told us "Amigas are flying off the shelves." Yes, the Amiga is now undeniably a power on the computing scene.

Yet one question I am often asked is "Why don't Commodore sell the 500 with 1 Meg instead of 512K?" Commodore could reasonably say that if the machine is selling so well, why change it?

It is generally experienced users who want the upgrade, and 1/2 Meg upgrades are today available, as can be seen in the advertisements in *AUI*, at around £70.00.

If CBM sold a 1 Meg Amiga that extra cost - or more - would be in the buying price, perhaps pushing it past the psychologically important £399.00 mark. Anyway prices have fallen and Amigas can legitimately be bought for around £325.00. Why don't dealers offer already upgraded Amigas at the official £399.00 price?

What about an Amiga 500 with another built-in add-on, say an internal genlock for video input? Such a machine was at the recent Cologne AmiExpo in Germany. It is being made in Italy and sold in Austria, reportedly 4000 a month.

There was another "collectable" Amiga there. It had patterned decorations printed on it, including fake leopard-skin squares! Supposedly, 2000 have been manufactured - for the German Amiga user who has absolutely everything else...

The German AmiExpo, the first in Europe, was dangerously overcrowded but had little to be seen that differed from recent U.S. shows. However, impressed by the attendance the organisers are talking about a U.K. AmiExpo for 1990.

With Commodore excercising its marketing muscle - it now has large a team of merchandisers visiting every Amiga dealer in the country, including the major chainstores, plenty more Amigas will be "flying out" and the Amiga dimension will grow fast enough to merit a show of its own, which I am sure that most Amiga users would welcome.

A major feature of this issue of *AUI* is graphics. We make no apology for returning to this subject in which the Amiga is unchallengably the outstanding computer at an accessible price. Most graphic programs, however, do need that upgrade in memory, frequently not just of 1/2 Meg but to 3 Megs or more.

As an Amiga user, I would say upgrades and Amiga shows, yes;genlocks, perhaps. But leopard skin Amigas? No, I don't really think so.

Antony H. Jacobson
Managing Editor and Publisher

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NEWSFILE

CHASING THE PIRATES

UK Customs & Excise has been urged to step up the fight against software piracy in the wake of one of the biggest crackdowns yet in Hong Kong. Hong Kong Customs seized illegal software worth $3 million in raids that resulted in 15 arrests.

Over 100,000 suspected pirated software manuals were confiscated from a syndicate that Customs-believed accounted for two thirds of the supply of pirated software and manuals in Hong Kong.

Peter Davies, European legal counsel for Ashton Tate, called for more action from UK Customs. He said: "We hope UK Customs and other enforcement agencies will follow the excellent example of their Hong Kong counterparts and take the initiative against software piracy."

Currently, software companies are hampered by the different national laws that define copyright protection for programs.

Mitsubishi's Scanner

Mitsubishi is now delivering a MH216P scanning package which inlcudes an intelligent optical character reader (OCR) and enhanced image handling.

The company is bundling an A4 desktop or handheld scanner, a half-length PC interface card and software running on Microsoft Windows. The system requires a PC/AT compatible with a fixed disk, and a minimum 640K of RAM.

The scanner uses yellow green illumination to offer quality scanning from colour originals as line art of half tone modes.

The OCR recognises Courier, Helvetica, and Times Roman, but it has a learn facility allowing it to recognise other fonts.
Columns of numbers can be scanned and imported into Lotus 1-2-3 spreadsheets as column ranges and editable text for word processing applications.

The MH216P offers pixel and paint, and cut and paste modes and digitises an A4 document in 10 seconds.

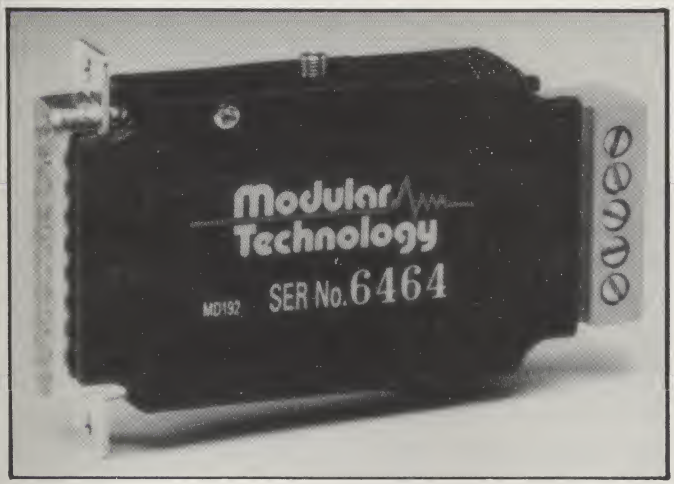
The price of entire scanning package is £559. Contact: Mitsubishi (0707) 276100.

EA's Indy 500

Electronic Arts has announced the early 1990 release of Indianapolis 500, the only computer game the Indy motor speedway has ever licenced. The racing simulation is based on the famous Indianapolis 500 Race Classic, the program captures the excitement, appeal and competition generated by the world's fastest cars and drivers. Indianapolis 500 works on all IBM compatibles in CGA, EGA or VGA and supports Roland MT-32, LAPC, Adlib and Tandy PC sound boards.

Players compete against 32 other cars in races ranging from 10 laps to the full 200 lap race. They can also practice before the race and then enter the qualifying rounds to try for the Pole position. Eight different systems on the car can be adjusted and saved to disk for later use, including shock settings, wing angles and tyre selection. Another option allows players to choose from one of three teams that have different levels of skill. In addition, team cars feature different dashboards, instruments and engine characteristics.

Price: £24.99.



Action Computer Supplies

Modular Technology's Micro Line Driver is a compact, host-powered device that measures only 85 x 45mm and plugs directly into the computers I/O port. It allows transmission of RS-232 signals over a simple twisted-pair cable up to 1250 metres at a maximum of 19.2 Kbaud, and to greater distances at lower baud rates.

It features auto baud-rate selection, selectable DCE/DTE operation, and a screw terminal block for line connection. Unit price is £59.00, reuced to under £50.00 for quantity orders.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Middx., HA0 1WL. Tel:(0800) 333 333. Fax:01-903 3333.

CalComp

There was much high profile marketing hype behind CalComp's WIZ package, "the first input device to combine the ease-of-use of a mouse with the precision of an intelligent graphics pad." It is designed for use with 35 major DTP, graphics and busniess application packages on either the Mac or PC. It features a three button mouse with six settings (four are user definable) and a crosshair window giving much greater precision. The pad has a resolution of 1000dpi.

Among its selling points, said CalComp, are colour coded templates with call out software commands that "eliminate the need for time consuming pull down menus and keyboard commands."

In the US the package has a $249 retail price tag with an introductory 90 day offer through distributor Ingram Micro D Distribution deals are expected to be with Xitan and Frontline in the UK.

Lattice is Piracy Buster

Lattice, Inc., makers of the Lattice C Compilers, RPGH II Compiler, SecretDisk II, Sidetalk, HighStyle, and other software products, has established a new corporate customer program which offers volume discounts to corporations that have multiple copies of Lattice products.

Under terms of the new program, volume discouts are given based on the number of products a corporation has registered with Lattice. Corporations can save 10 to 25% on new purchases, five to 15% on upgrades, 5 to 15% on training classes, and 5 to 25% on extended technical support.

There are no fees to become a Lattice corporate customer, and there are no obligations for the customer to make additional purchases or upgrades.

Contact: Lattice, Inc., 2500 South Highland Avenue, Lombard, IL 60148. Telephone: 1-800-444-4309. Fax: 708-916-1190.

Dr. T's "Class of the 90's"

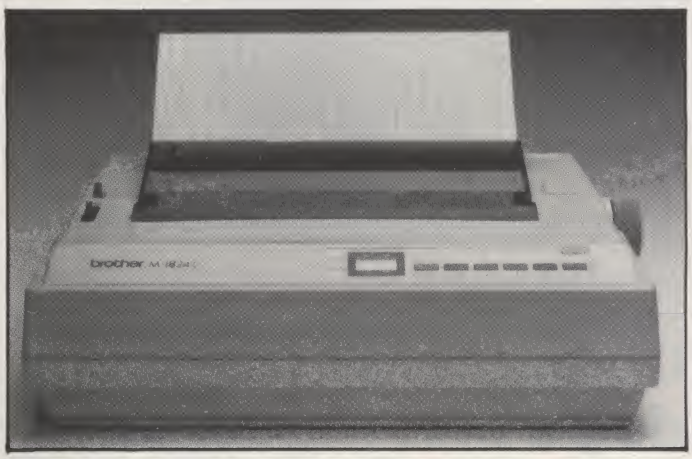
Dr.T's Music Software "MIDI Recording Studio" has been chosen to be a part in a new promotion by Commodore UK Class of the 90's is Commodore's latest foray into the educaiton market. Commodore has just purchased its second order of MIDI Recording Studio programs from Dr. T's bringing the total number of packages to5,000.

Commodore has taken to heart the lessons taughtso well by Apple in the US and is moving strongly into the educational field with a package consisting of an excellent collection of useful software packages. These programs, bundled together, are being sold by distributors to the schools in the United Kingdom at a ??? price in an attempt to capture a significant share of the educational market.

Al Hospers, CEO of DR.T's Music Software (one of the world's largest manufacturers of computer music software), said about the education package and the Amiga in general; "This is a great collection of software applications. Commodore has a strong chance to leap ahead of Apple in the educational computer field now. they have the strong color graphics, sound, and animation that the schools want now for the children. And as far as sound goes, they are way ahead of anyone with their super samples. And of course the built-in multitasking combinations of music and sound. this is a very strong machine!"

This is the first time that an American software house has worked with Commodore UK in this manner. "I think that there are a number of ways software companies can work with the hardware manufacturers to edxpand the marketplace", says Hospers. "We will be working closely the Commodore both in Europe and the US to expand Amiga computer sales. We feel that The Amiga is the computer best positioned to take advantage of the new surge in multi-media, and we plan to be part of it."

Dr.T's has also announced a number of new products for the Amiga. The Keyboard Controlled Sequencer revision 3.0 which contains numerous enhancements and revisions incluidng support for SMPTE time code, full intuition interface, and a direct link with other Dr.T's applications through their Multi Program Environment; Phantom SMPTE synchronizer box which allows KCS or other compatible video and music software to sync to an audio or video tape; and AutoMix,m a compugter controlled mixing panel for doing automated volume and controller mixes of music. Contact: 220 Boylstgon Street, Chestnuat Hill, MA 02167 USA. (617) 244-6954. Fax: (617) 244 5243.



Brother dot matrix printers

Three 24-pin Brother printers available from Action include an entry-level model at well under £300.00 and two more powerful machines.

Fastest is the 80 column model 1824, which prints at 225/327 cps draft and 75/112 cps letter quality. Features include a colour option, five resident fonts, a 64KB buffer, dual interface, and emulations for Epson LQ, IBM ProPrinter, Diablo and Brother HR. Action offers the 1824 at £469.00 (MRP £595.00) and the optional colour-ribbon control unit at £32.50.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx, HA0 1WL. Tel:(0800) 333 333. Telex: 922493.

16-BIT SHOW

The 16 Bit Computer Fair which is taking place at The Royal Horticultural Halls on the 12-13-14 January, is designed for new and existing users of 16 Bit equipment, including the Amiga, who are now looking to increase the capability and interest of their machines.

The organisers, with a background of over 30 quality technology consumer events say they will be ensuring yet another priftable and enjoyable show for all concerned.

There will be over 90 compnaies at the event, supplying hardware to software, and peripherals to consumables. Offering lots of very good prices, as well as the launch of many new exciting new products.

The organisers are promising to make sure that not only do he right exhibitors come, but also the right visitors, an estimated 20,000 new and existing.

To obtain on of the last remaining advance tickets at the discount price of £2, call 0726 68020 now. For details on exhibiting, call the organisers on 01 549 3444.

CBM BUYS 10,000 DR T'S

For their new package called 'Class of the 90's' which includes copies of 'Amiga User International' magazine, Commodore UK have bundeled Dr T's MRS 1.1

The package consists of an Amiga 500, various software and MRS 1.1, 8 track midi sequencer, and AUI.

Dr T's was chosen because they offer high value music software and claims to have the widest range of music related products for the Amiga.

This bundle must make MRS one of the largest selling individual peices of music software ever produced.

Hyperforce is blistering stuff

Hyperforce is a new release from Addictive Games. They tell us, with some enthusiasm.

"Hyperforce is a wicked arcade challenge over 30 levels of hectic, wrist-twisting, finger-bending action. Hyperforce has stunning graphics and sound, and is probably the nearest a home computer owner can come to arcade action without putting coins in a slot.

Hyperforce also includes 5 mind-boggling puzzle levels to twist the mind as much as the rest of the anatomy".

Addictive games points out that no one should attempt Hyperforce without first warming up their game-playing skills. For this reason every Special Limited Edition pack includes a free warm-up kit:- "Artificial Dreams" — a shoot'em up with a MEAN catch 22 twist — to play the game you must shoot your way through a maze, but you must find your way through the maze to play the game ...!
Amiga £14.95

Computers? It's now a dog's life!

PEDISYS is a system for the breeder of pedigree dogs, specially designed by computer specialists and breeders with enhanced features to provide ease of operation for those new to the computer world.

PEDISYS will print out all of the following information by retrieving data already stored in three main areas — these are database files for 1) Animal, 2) Breeder and 3) Purchaser details:- includes

— Dogs name — Date of birth — Breed — Colour — Kennel Club No — Family tree details — Family tree line.

Contact: Pedisys, 1 Parsons Walil, Stewkley, Leighton Buzzard, Beds, LU7 0HQ. Tel: 0525 240300.

Brad Stallion Thrusts Again!

Free Spirit Software has announced the release of Bride of the Robot, a new adult, graphic adventure game for the Amiga. This is the third Captain Brad Stallion adventure, combining twisted humor, colourful grapics, and a strong storyline into what is, say Free Spirit, at times a sinful, graphic adventure.

Once again you take on the role of Captain Brad Stallion, owner and operator of the one-man space vehicle known throughout the entire galaxy as "The Big Thruster." As the story begins, you are stumbling around a moon of Mammaria, trying to forget your hangover and find your ship. Suddenly an urgent message informs you that Miss Galaxy has been kidnapped by a runaway robot. A robot with a sex drive! It was a new development by Professor Wang — but something went wrong. The robot went berserk, killed Professor Wang and kidnapped the new Miss Galaxy. It is your mission to rescue Miss Galaxy and neutralize the robot. It's a tough mission, and you'll have to use your head to charm Charlotta, Enchantra, and your brain to find Miss Galaxy, but the Federated Government is counting on you.

Bride of the Robot is available now for the Amiga with a suggested list price of $39.95. 1MB of memory is required. With over 50 graphic screens, new title music, and an array of sound effects, this may be Brad Stallion's greatest challenge, say Free Spirit.

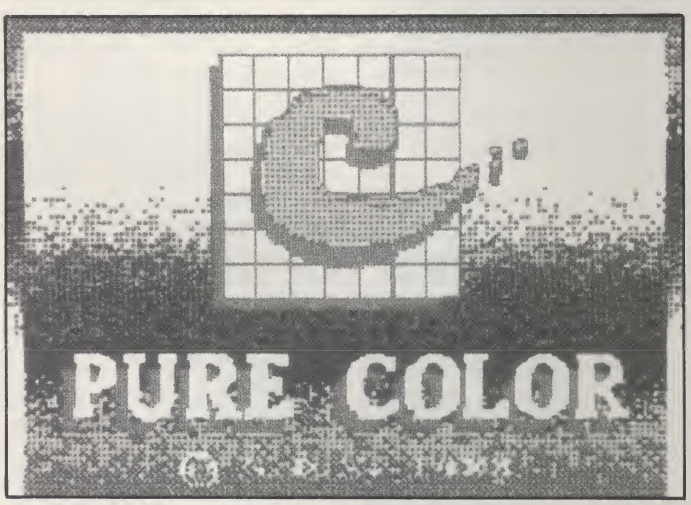
Contact: Free Spirit, PO Box 128, 58 Noble Street, Kutztown, PS 19530. Tel: (215) 683-5609.

Action's Back-up Drives

Action now offers Everex Excel tape back-up drives for the IBM PC compatibles, all at prices substantially below MRP with two year extended warranty. All can be used on networks, and feature menu-driven software, error correction and internal diagnostics.

The range includes three 40-Mb internal drives, and four 60-Mb and four 125-Mb drives. These are available in external and internal versions, and feature the Everex scheduler, which allows completely unattended operation for regular back-up schedules.

Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middx., HA0 1WL. Tel:(0800) 333 333.



Pure Color for the Amiga

Tired of guessing what screen colours will look like when translated by your colour printer? With PURE COLOR, the guessing is over! PURE COLOR lets the artist know exactly what colour will be printed without experimenting with different palette settings.

PURE COLOR is a collection of printer palettes designed for graphic artists or anyone with a need for colour hard copies. Each IFF screen holds 32 different colours or shades of colours that can be printed to give the Amiga artist a convenient colour chart for quick reference. Each colour is clearly labelled with the numeric setting for RGB. There are over 500 different colour settings as well as 160 dot pattern settings (PURE COLOR will let the user manipulate the dot pattern created by any type of printer) and a newly added Qusi-HalfBrite chart. (Simulates 120 colors per hi-res screen.)

Although PURE COLOR was designed for Ink-Jet printers, it works well with any type of printer. (PURE COLOR prints at the printers highest resolution and is only limited by the number of colors that the printer is capable of producing.) PURE COLOR is not a printer driver but a collection of IFF compatible screens that are used as a color reference guide. PURE COLOR was designed by graphic artists using Delux Paint II and is compatible with Amiga DOS 1.3. Price £17.95. Contact: Graphic Design Studio, 417 Transcontinental Dr. Metairie, AL 70001 United States. Teo 504 455 0341.

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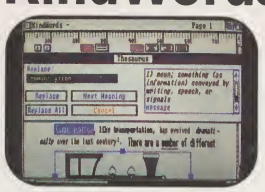

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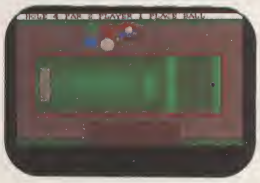

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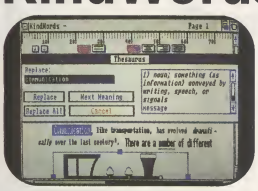

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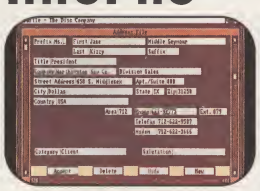

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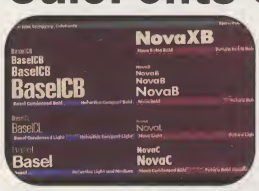

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For Further information contact The Disc Company: Paris 33-1 45 53 10 53. BP 435.16, F-75765 Paris Cedex 16.

Be nice to Dolphins ... Save the World

Addictive Games launches "Aquanaut", produced by Fissionchip, creators of "The Kristal".

Aquanaut is an interaction arcade adventure, written in the spirit of the 1940's cinema heros (Buck Rodgers, Flash Gordon et al ...), but taking place deep under the ocean, in a maze of underwater caverns and then in the fabled city of Atlantis.

Aquanaut you must: SWIM 20 miles underwater, BATTLE incredibly nasty creatures, FIND the lost city of Atlantis, AVOID Mutant sharks, swordfish and jellyfish, HUNT for hidden clues, SMASH the Ramanishi, BE NICE to dolphins and mermaids, SHOOT your way to victory, SAVE the world.

Aquanaut will be on 3 disks. Addictive claim that if you surmount the perils of the deep with clever strategy and slick joystick control, and the underwater world can be yours ... what all of it? Amiga £24.99

Teleports Are Coming...

Accepting to the Telecom outlook report, teleports are growing - 3 years late...

A teleport is a communications distribution centre, receiving and transmitting voice, data, and video information. Teleports use satellites, fibre otics and microwave systems to gather large amounts of traffic which is then sorted and distributed.

Because of economies of scale, teleports can offer high-quality services at significantly redcuced costs.

With the rise of global telecommunications, teleports are becoming very popular. The World Teleport Association (WTA) has over 100 members - carriers, governments and businesses.

CALCULATE THE BENEFITS OF VERBATIM DISKS

A free calculator with every double pack of Datalife Plus MD2-D and MD2-HD minidisks is on offer from ISA International, a leading distributor of Verbatim Datalife products. The special offer 20 packs are available at £16 RRP and £25 RRP- for the MD2-D and MD2-HD respectively.

Datalife Plus disks are unique because they are both teflon coated to resist surface damage and preformatted to save time and trouble.

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Contact: Verbatim Limited, 13 Mole Bunsiness Park No. 3, Leatherhead, Surrey KT2 7AQ. Tel:(0372) 377555. Telex: 892757. Fax:(0372) 379918.

STARFLIGHT 2: TRADE ROUTES OF THE CLOUD NEBULA

Electronic Arts has announced the release of Starflight 2: Trade Routes of the Cloud Nebula, an interactive science fiction roleplaying game for IBM Compatible machines.

Players who enjoyed Starflight will find the same humour and complexity combined with new features, faces, plots and locations. In Staflight 2 there are 30 new and unique alien species to talk and trade with, over 500 new worlds to explore and the challenge of solving todays mysteries by experiencing the intricacies of the past.

The Spemin, an arrogant race of slimy blobs are back - with new weapons, unlimited fuel, and grand hopes of turning the universe into a giant petridish. The player has only his charm, wits and a hot starship, but unless he discovers the source of Spemin's fuel and technology, he and the crew will be serving mucous cocktail to Spemin overlords.

Experience in the original Starflight is not necessary. Starflight 2: Trade Routes of the Cloud Nebula supports CGA, EGA, and VGA and will be available on both 5¼ and 3½ disks.

SSI's Stellar Crusade

Strategic Simulations in the US has released the Amiga version of Stellar Crusade™, the popular space/science fiction game by Norman Koger, Jr. Stellar Crusade is an intermediate to advanced level game for up to two players.

Stellar Crusade is a strategy game of exploration, economic power and military conquest on an interstellar scale. Two fanatical groups embark on a mad race to control a small, but vital star cluster. As the leader of one faction, your first task is to send out exploration teams to grab the best planets in the star cluster and colonize them. Next, you must build up your economic strength to prepare for war. This entails allocating raw materials and production points to build shipyards and maintenance facilities; train and supply troops, engage in research and development; establish farms, mines, refineries and factories. To win a star war, you need starships. Design your own and equip them with a host of offensive and defensive weapons.

There are seven different scenarios with multiple levels of difficulty: three short, three medium, and one long campaign that spans decades.

Price: Amiga $54.95.
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DR T's TIGER CUB...

Dr T's Tiger Cub is the entry level sequencer of 1990 based on the very popular programme TIGER.

Tiger Cub is full of features which the manufacturer's claim is "unheard of in an entry level sequencer".

The sequencer section has 12 tracks with name and comments, large tape recorder type controls, resolution 384 ppq, cue points, full menus.

The editing section has full graphic real time editing a la Tiger. Velocity stems and note duration shown. Notes can be moved, edited and heard while the sequencer is running. Tempo map allows different time signatures to be used down to ticks. i.e. a bar can be 453 ticks long. There are discontiguous notes which can be selected for editing, instrument/drum maps can be stroed to disk allowing patch changes to show patch names.

Tiger Cub will run MPE modules, read/write midi files and show/print 12 staves onto a dot matrix printer.

There are many other features, the makers boast, that would put most professional packages costing 3 or 4 times as much to shame. Tiger Cub will be available for the Amiga early in the New Year!!!

S.T.U.N. RUNNER

Domark is pleased to announce that S.T.U.N. RUNNER, Atari's latest mega coin-op, which will be releasedf late next year on the Tengen Label.

"This is a marvellous game and s destined to be a major coin-op licence later next year," comments Mark Strachan, Domark's Joint Managing Director who is, of course, completely unbiased. "Rather than being completely brilliant... it's completely S.T.U.N.N.I.N.G." he says modestly.

Set in the 21st Century, a billion dollar racing vehicale has been designed - the name of the machine is S.T.U.N. Runner. A game of excessive speeds, S.T.U.N. Runner Domark claim, will "test even nerves of steel." You travel through a series of convulted tunnels at speeds exceeding 900 mph. Use your powerful lasers and the specially designed 'Shockwaves' to annihilate gangs of enemies bent on stopping you.

"With fabulous polygon generated 3D graphics, the 'feel' of incredible speed and the ability to handle the mean machine, S.T.U.N. Runner will give all speed freaks a thrill" says Domark's joint MD enthusiastically. Now he wouldn't lead you wrong, would he?

VISUAL SPEECH THERAPY

A grinning cat is helping people to enunciate words properly by appearing on a video screen when the word 'cat' is enunciated correctly.

Siemens has developed a language trainer, known by its German acronym RST, which reacts optically to a variety of articulation exercises. Each time the desired word is spoken, a picture of it appears in focus if it has been clearly enounced, less so if it has not.

There are 10 stages of picture clarity, which makes it possible for the pupil to know exactly and immediately how well or badly the word has been enounced.

Practice can be without supervision, because a printout allows the therapist to determine which words cause particular problems.

RST is intended for special schools, industrial rehabilitation centres and clinics, for patients who have suffered speech defects following operations or accidents.

Taking Adventures Into The 1990s

For three years French programmer Paul Cuisset has been quietly working on a new type of computer game.

Starting from the premise that many people would enjoy playing adventure games but are put off by having to type in text, Paul has worked on a new system that uses the adventure style wthin an animated game. The result is called CINEMATIQUE.

The first Cinematique game, developed for Delphine Software and distributed by Palace, is nearing completion and is titled... FUTURE WARS - TIME TRAVELLERS

In the 43rd century Earth is under attack from an alien race. The planet is well protected by a formidable SDI defence which the aliens cannot penetrate until... they hit on a plan... sabotage the defences before they are built by travelling back in time to plant delayed action bombs at strategic places!

Your adventure starts in the present day when, innocently attemting to avoid your boss at work you stumble across a secret passage thatbtakes you into the Middle Ages, Prehistoric Times, and the distant Future.

What it is claimed, sets a Cinematique game apart from previous adventures is its friendliness and ease of play. Future Wars also features an complex plot, problem-solving, graphics, animation and sound.

Future Wars: Time Travellers and the Cinematique system is already being

FUTURE WARS

TIME TRAVELLERS

hailed in its native France as the single greatest Industry event of the year. Leading French 16 bit computer games magazine Generation 4 has said: "The major event in adventure games this year is French. This is as intelligent as Sierra On-Line games but 20 times better produced."

At Europe's leading awards ceremony held in Paris in November Future Wars was the only game to have recieved two Tilt d'Or awards.

When the French language version of the game was released in France in mid-November it set a new record (previously held by Operation Wolk) as the fastest selling 16 bit game ever.

FUTURE WARS: TIME TRAVELLERS is now being released for the Amiga. A PC version is also planned for later.

In addition to the English and French versions, German and Italian versions are soon to be released.

Fastest Demultiplexing Chip

Researchers at Ruhr University in Bochum, West Germany announced that using Siemens technlogy (a self aligning polysilicon biCMOS process and 1.5 micron lithograph, you know what that means don't you?), they had developed an integrated demultiplexer thatr uns at 10C bit/s. By replacing the biCMOS with a present day bipolar only technology, the reasearchers claim they could push the bit rates to over 20 Gbits/s.

This kind of speed would open up the bandwidth in fibre optic systems, allowing faster data transmission rates. Faster rates on transmission can mean lower overall costs to end-users, bringing more end-users into the market.

Elan Performer

The key to compatibility is uncovered in a new graphics presentation program. Peter Lee displays uncharacteristic enthusiasm...

Most computer artists work in a variety of screen formats. One day you may need the sophistication of the HAM mode, another the crisp definition of Interlace hi-res. And at any time you may need to construct an animation. Displaying this blend of modes, resolutions and file formats has proved one of the nightmares of Amiga graphics.

It is a problem which has been tackled in the past - The Director springs to mind as a good stab at mixing modes and animations, provided you could master the Basic-like programing language needed. It has more advanced features than simply a slideshow utility, and it showed that the potential was beginning to be mined.

It has taken until now, however, for the mix-and-match graphics dream to be fully realised in Elan Performer, the answer to a thousand prayers and probably the finest display tool to date for the Amiga artist.

This is no exaggeration; anyone who has tried to construct a sequence for videotape dumping will know the problems. Individually displaying the components is easy - your original art package can do that. But if you want to show a title screen for a set time, then play a logo animation, ending with scrolling title credits, you have your work cut out.

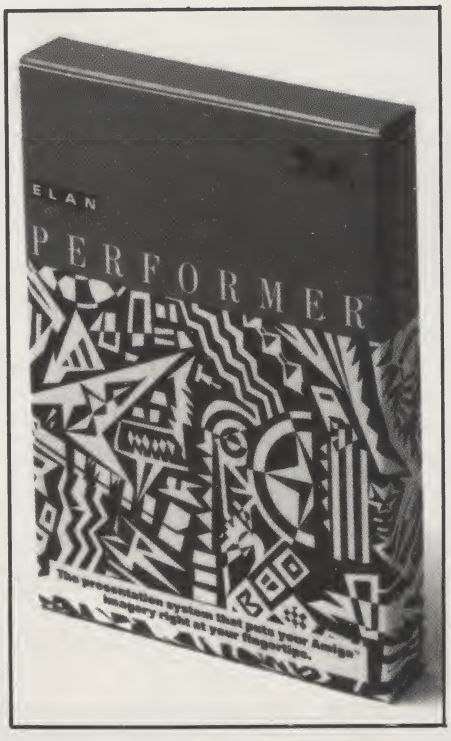
Probably you would have to pause the videotape after each specific item, and load in the next piece. This can lead to perceptible splices on the lower range VCRs, and is about as unprofessional as you can get.

But with Elan Performer, a complex script can be run through seamlessly after only a matter of minutes spent setting up. The ability to switch instantly from HAM, lo-res or whatever mode your work was create in is an outstanding feat, and opens the way to more sophisticated displays than artists could only ever dream of.

And the real bonus is the program's sheer simplicity. It really is a case of point the mouse and go; images or animation files are selected from a file requestor constantly displayed on the screen, then assigned to any of the alpha-numeric keys or function keys shown on a graphic template of the actual keyboard.

Click on a filename, click on the key you want to store that image under - no effort at all needed. Once a key has a filename attributed with it, just by double-pressing the key enables you to view the image. And as you can use all the keys with their shifted value as well, scores of separate images can be literally at your fingertips.

The range of graphic formats recognised by the program leaves no doubt about how serious a professional tool it is: ANIM, RIFF, IFF, HAM and RGB are all catered for, which is about as compatible as you can get! However, the program's display appears to be always in interlace, regardless of the image's resolution. This did not present me with a problem, and is actually better for videotape transfer. But on all except high-persistence monitors, the small shudder effect of this mode is noticeable to the naked eye.



As well as all display modes, Performer is also able to convert various forms of animation files. For instance ANIM files can be saved as RIFFS, and indeed some riffs can be saved as anims, and the program will tell you exactly how much RAM each file occupies, to help in deciding the best method of storage (or indeed, if you have sufficient room on your disk).

As a technical point of interest, the difference between the two formats is quite profound; Anim files store information about the differences between successive graphic frames - if only small portions of the image change, the file will be relatively small. RIFFS store whole images in the form of a continuous strip (rather like a film). Even so, if your ANIM file has lots of changes in it, it can actually grow longer than a RIFF file of the same subject (digitised moving images are a good example).

The only real limitation of the program is the amount of memory you have available. It will work on a bare 512K machine, but clearly if you intend stringing animations and stills together in a continuous demo, you will need as much memory as possible - Performer will go on filling it with images as long as you have the bytes.

And I am pleased to say that the European version (v1.05) of this USA product is in glorious PAL - with overscan capabilities if you need them.

Once a sequence of images has been assigned to keys, you can save the so-called Environment, which is another name for a script, and which can be re-loaded and amended as required.

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Showing images or animation is simply a matter of pressing the relevant key, or clicking on its screen representation with the mouse pointer. A sequential display of any assigned images can be initiated by double pressing the Escape key.

In the case of still images, the amount of time they remain on screen can be set, together with colour-cycling if applicable. In the case of animations a loop-counter can be used to generate repetitions, and it is even possible to alter the playback speed. Even DPaint's brushes or brush animations can be displayed, though the program expands, which may not be what you want.

Things get even more sophisticated because it is possible to pass control to the mouse, which will display images forwards or backwards with a mouse-click, so you can control a presentation whichever way best suits your needs. And while a presentation is in progress, the keyboard can be used to control display timing, which adds greatly to the versatility of the program.

As well as images, new environments can be allocated to keys, enabling the construction of complex nested routines (provided you have the disk space for all those files you will be using). It does not take a giant leap of imagination to create a menu-driven display, with the selection screen simply a listing of available images. Depending on the user response, a new environment can be quickly loaded.

There is also the facility for real-time editing of sequential images. Because a graphic screen can be appended to any other, you can build up an animation file, and provided the images share the same resolution this can be saved in ANIM format (or as a RIFF, where such constraints do not occur). As many frames can be appended to each other as memory permits, and they can then be deleted or re-arranged to suit your needs.

The program arrives on an unprotected disk, making transfer to a hard drive simple. There are a number of outstanding utilities included on the disk. The main feature is a player module which may be copied to your art disks, and which will run an environment script independently of the program itself.

All the playback functions are included - you can have a rolling loop presentation, or still call up images by pressing the appropriate key.

Tools available are an Anim file splitter, which will cut an animation into distinct frames, and a RIFF splicer to combine images of virtually any format, size, resolution or colourmap into a single animation. The only constraint is that the source files must be able to load into RAM uncompressed (ie have the RAM available which is equivalent to the size of a single screen multiplied by the number of frames used.)

The well-illustrated manual is comprehensive and well-written, and seals off a fine product.

CONCLUSION

Elan Performer is probably one of the most exciting graphic display packages written for the Amiga. It is simple to use and includes techniques which graphic artists and animators have been clamouring for. It is much more than a slideshow utility - it can provide the best possible framework for an artistic presentation, and solve the problem of multiple-format display. It is as if reason has settled on the confused world of Amiga graphics, and the program will suit the demanding professional as well as the enthusiast. ***P.L.***

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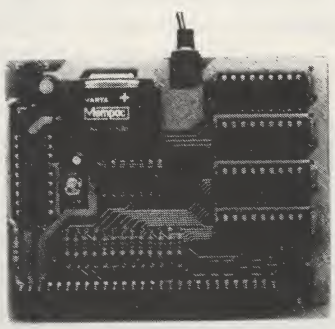

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Deluxe Video III

As new life is breathed into an old favourite. Peter Lee tracks down the move towards perfection by Electronic Arts

The start of a new decade is an appropriate time to launch what is destined to become a land mark product - the third generation of Electronic Arts' animation presentation program.

January 1990 sees the introduction of DeluxeVideo III, which together with sister program DeluxePaint III must make this pair the linchpins of Amiga graphics.

It is a total re-working of the original animation software which created such a stir in the Amiga's early months - as if David had turned into Goliath.

Author Mike Posehn has moulded a tool which combines the ease of use of the original, a deep understanding of the needs of animators and the inner-workings of the computer.

At first glance, the user interface will seem familiar ground to users of the original program, but massive changes have been made to totally re-structure it. Indeed, the original working concept of the program - the use of dual playfields - has evolved into an environment which now supports all Amiga graphic modes - including HAM, halfbrite and overscan. The display is in PAL too.

Another fundamental change is in the actual storage of videos; the earlier version combined all files, but version 3 creates independent scripts which load the relevant data - backgrounds, brushes etc - as required.

DVideoIII, not unexpectedly, supports and manipulates DeluxePaint's Animbrushes, and ANIM files. It is also possible to create an ANIM from a portion of your video. Many more tracks are allowed now, and as a greater number of effects is possible, the

Mike Posehn

scope for complex animations is broadened considerably.

Included in this version is the ability to make interactive videos, with branches set to operate through either mouse or joystick control, and the facility for drawing and editing an object's path on screen.

"External devices such as a SuperGen genlock can be controlled via the blossoming ARexx standard inter-device communication language."

Moving objects can be glued to others, to give the sense of relative movement, one keeping pace with the other, and the cut and paste feature has been enhanced to include whole tracks, scenes and effects. In this way you can build a library of effects, and use them in any number of videos.

Two major additions are the ability to use super bitmaps in your work; this means images which are larger than the actual screen can be scrolled about to give the appearance of constantly moving backgrounds. And as well as playing tunes or sounds, the program supports MIDI output, provided you have the appropriate hardware. External devices such as a SuperGen genlock can be controlled via the blossoming ARexx standard inter-device communication language. Also on the four-disk set are two useful programs: Instant Slideshow allows you to select a number of images - screens or animations - and then play them back in sequence with random wipe effects. The program DVMover is vital for keeping all the portions of your video together. If you use images from different disks, as is likely to be the case, running this program will copy the data into one area, and amend the pathnames which were recorded at the time of your video's composition.

A DVideoIII player program is supplied, and this may be freely distributed along with your videos.

Anyone familiar with the original program will see a wealth of improvements and additions. But how to they combine to make life simple and effective for the animator? Provided you can cut through the Amiga jargon - rastports, viewports, bitmaps and the like - the actual concept of the program is straightforward in both use and execution.

A video is constructed on a linear editing screen, where chosen actions are measured against time. Events are shown as small rectangular boxes,

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which can be opened up for specific editing.

Scenes open up to their own editing screens, where tracks are added and event control boxes placed with a start time and duration. These events can range from the display of a single picture to the defined movement of an anim brush over an already displayed image.

Control boxes are rubber-banded to allow you to place the marker anywhere on screen if a line gets crowded. However, the program has a strict code of priorities, and in some circumstances a box placed higher than another will be given a higher priority.

A scene can have five individual tracks, each undertaking a different task: There is the VIEWPORT track on which backdrops, Anims or pictures are controlled. OBJECT tracks for manipulation of AnimBrushes, solid box, brush or textline (which can use any font at your disposal, with an optional shadow). The CONTROL track is used in interactive control while the video is running, EXPERT track for sophisticated effects, and finally the AUDIO track. You need not use all of these tracks, as a scene, for instance, may only contain a single displayed image. But various events are specific to a certain type of track. You cannot have a picture primed to appear on a sound track. If you want the image and sound synchronised, then the start position of each event must be the same on the two relevant tracks.

The procedure sounds more complicated than it really is, and the manual, though of the high standard expected of Electronic Arts, tends to dig itself into a few dark holes of obscurity. But as the whole procedure is mouse driven (with some handy keyboard shortcuts) script construction moves along swiftly.

To sum up - a video consists of a script, which has a number of tracks. Within the script there may be several scenes, and each of these may have its own scene script and accompanying tracks. Among the constraints are the fact that screens may not overlap, and the maximum bitmap width is 1008 pixels.It is like the branches of a tree, each leading to another part of the whole.

The program is very helpful in the way it only opens requestors containing those options available for the user's chosen event, and will flash a message if the inappropriate operation is selected.

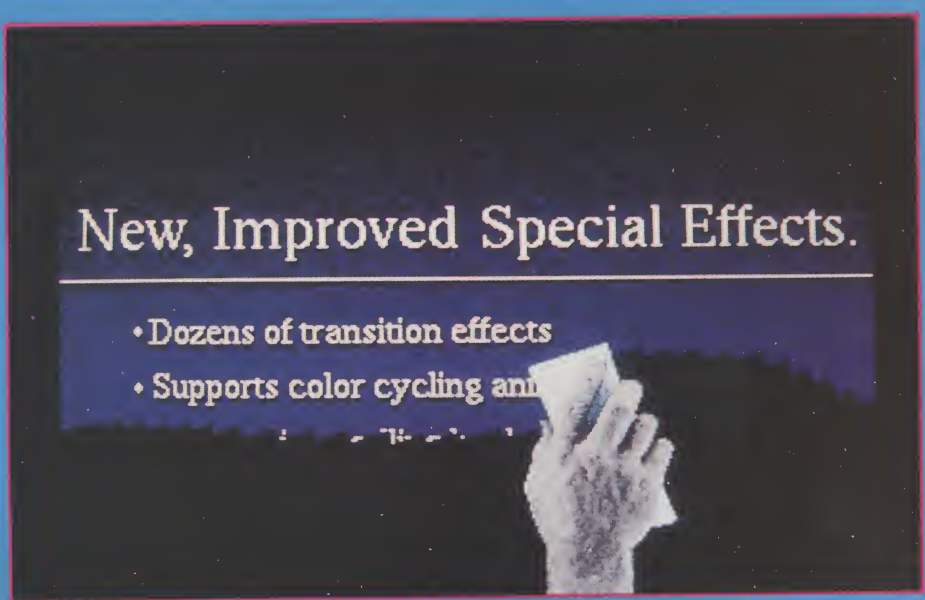
"Editing the effects themselves is easy - getting them to work together in a coherent video takes a little time!"

Of all the Amiga's modes, the Hold and Modify display is the most generous in terms of colours, but at the same time the most awkward to control. This is especially true in video terms, because when you begin to move a brush around a HAM screen, you are bound to hit the old problem of colour fringing around the edges. DVideo III goes some way to combating this if an option labelled Hamfixup is selected. This has the desired effect, but at a great cost in speed.

The only way to improve on this is to then get the program to save each frame as an ANIM file, with the brush stamped on the background permanently. Subsequent playback will be a lot smoother.

In the realm of advanced techniques, not only can animated anim-brushes be traced across a scrolling background (positioned wherever you want), but individual pictures can be scrolled, or transitions invoked to display another image or the start of further animation. Fades can be called on, and various effective wipes can be kicked in, and you can configure the duration and pixel size for either coarse or fine-grained effects.

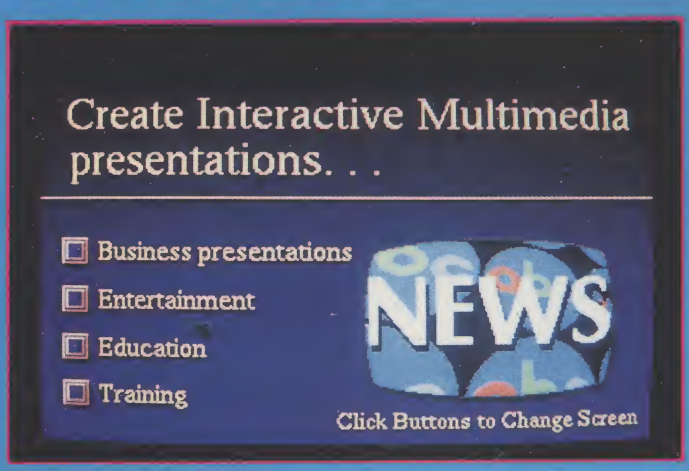
The ability to have different screen formats displayed on screen at once is seems like quite an attraction, but has a limited use in practice. A black border separates the two images, so it looks as if one screen is overlaying another, and the two do not appear part of a whole.



Several wipes are available - from blinds to corner spreads - and minor alterations in speed can add to lively transitions.

Two little words in the program's editing repertoire - what? and where? - hold the key to some innovative special effects. By altering these you can show portions of a picture anywhere on screen - a kind of scrolling window onto a larger area. Editing the effects themselves is easy - getting them to work together in a coherent video takes a little time!

Brushes of your own design can be used to wipe one image onto another, and a brush's shape can be used to pickup the same shape of an under-



lying image. For instance, if you drew a jagged-edge brush, this shape would then be transferred to a brush of part of the current image at the point you specify.

As the program allows you to see each individual scene whenever you need to, on-the-spot editing is easily accommodated; if you are not happy with a parameter, simply make a correction and watch the effect again until you are happy with it.

Separate videos may be appended into a longer script, and during playback you can invoke a control panel, which sits at the bottom of the screen and which counts out the time of the video. It has controls similar to a tape player, enabling you to move anywhere in the video or scene and pinpoint the exact time of an incident - perhaps to cue in a music track.

Timing is all-important for a fluid presentation, and each time the pointer grabs a start or end marker on a track, the beginning and end time is constantly updated as you move the marker.

The manual contains plenty of helpful information, and especially appropriate are tips on getting smoothly animated movements from brushes. Some of the many examples on the disks (which incidentally have no copy protection) do display a slight problem here. However, following the advice offered, I had few complaints about the results. Not so smooth as a full ANIM file would have been, but considering the flexibility on offer (and the fact that I had music playing continuously), it was better than adequate.

And as mentioned earlier, frames can be saved in ANIM format, so you can build up a smoother-moving video from the various parts you have added.

As far as standard data files are concerned, DVideo III expects images (brushes, pictures) to be in IFF format, and sound samples in an IFF 8SVX file. Actual tunes should be in the IFF SMUS form (as created by DeluxeMusic or Instant Music for example) and can be up to eight tracks. The user has a wide control of sounds, with volume and pitch among the editable parameters.

"The user-interface is not too intimidating, despite the somewhat complex (but thorough) manual, and basic rules can be understood in a few hours."

CONCLUSION

All-singing, all-dancing -- all new. DeluxeVideo III looks like being the pinnacle of audio-visual video packages for the foreseeable future. It works smoothly in tandem with DeluxePaint's animation facilities to enable highly sophisticated presentations to be constructed. In the higher resolution modes movement can get sluggish if many effects are being generated, but the ability to combine individual frames, with brushes and backgrounds treated as one, into a single ANIM gets the program out of this tight spot. Playing tunes and sound effects along with a video is a major aesthetic improvement, but you will need as much extra RAM as you can afford to get the most out of the program (and in fact it will only run with 1meg of RAM), because disk access, unless managed expertly, tends to cause visual stalls on playback. The user-interface is not too intimidating, despite the somewhat complex (but thorough) manual, and basic rules can be understood in a few hours. I was not a big fan of the original program, but having quickly got to know and use version III, I am a convert. Anyone interested in computer animations should check this one out.

*DeluxeVideo III is due in the shops in January 1990. The introductory price of £79.99 will last until March 1, when the cost will rise to £99.99. Upgrades for existing DVideo 1.0 and 1.2 owners will retail at £45.

P.L.

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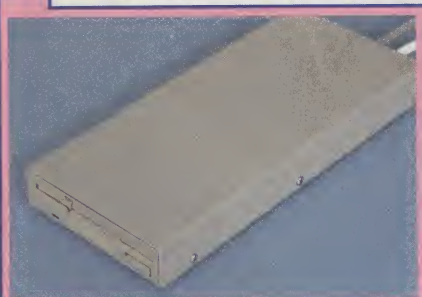

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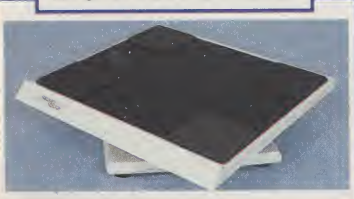

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Lattice C Version 5.04

Mike Nelson tests a package that comes from an already legendary source

The Lattice C Development system has become the standard package for programming with the Amiga's extensive operating system. Whilst Version 5 of the compiler has been around for nearly a year, Lattice's policy of continued upgrades has led to the recent release of V5.04. The original release of V5.0 was fully reviewed in the April 1989 issue of AUI but it is worth briefly reiterating some of the most significant advances mentioned there, before taking a look at using Lattice C.

Firstly though, why C? The use of the language for the main operating system of a microcomputer is a real departure from the fad for Pascal, a trend set by Apple and IBM. Of course, we are yet to see a true multi-tasking operating system from either of these pace-setting mega-corporations but therein lies the answer to the question.

C has its historical roots in a dark room where UNIX was also conceived, gestated, and eventually unleashed on an unsuspecting universe sometime in the seventies. UNIX was designed primarily for multi-user systems, so that the 200K chunk of code called (amongst other things) KickStart is more closely allied to mainframes than you may imagine. Thus nearly all of the Amiga's OS is written in C, to talk to it in Pascal would make as much sense as teaching a Frenchman to speak Welsh through the medium of Serbo-Croat. Whilst this is probably possible, I would not recommend it. Most applications are written largely in C, with a smattering of Assembler for those tricky bits of code that need a bit of extra zip. Games programmers are not used to such luxuries and prefer to dismiss several years of development (and considerable volumes of coffee) to poke around in the chips, just like on the old '64 with V2 BASIC.

Enter Lattice C. C owes most of its speed advantages over AmigaBASIC to the fact that it is compiled (and also to the fact that AmigaBASIC is inconceivably slow - a real achievement by its writers). Lattice really got adopted as the unofficial Amiga C compiler despite stiff competition from the Aztec Manx C, although the latter is still preferred by many programmers. The Lattice kit will set you back nearly £200 but for that you are getting something really special.

From the top then, you have a full screen editor, the compiler and linker, a program to aid debugging and various performance analysis tools so you can Krypton tune your code.

The editor, LSE, is good. In fact, it makes "ed", the AmigaDOS thing, seem slightly antiquated to say the least. (To digress, briefly at this point, I wonder if Yuri, the man with all the answers, can tell us why WordPerfect has to re-draw the screen three times after mucking about with the windows. Surely once is sufficient?). Back to the editor and its advantages over others like Emacs, supplied with 1.3 WorkBench. This is really down to personal choice and it is a question of what you are used to, how much personal grief it causes you to relearn an editor's commands, although this is aided to some extent by having most of LSE's functions user definable, and if you find the advantages overwhelmingly useful. I do, so I did.

You can then trip the compiler into action with a single key press, feeding it some of the myriad of options available, and sit back while the nice editor displays each error as it occurs, giving you the option of aborting or ignoring. This can save you much precious hacking time, especially if you are still running with floppies as you never have to exit the editor. You can even run your program from within it as calling up a CLI is as easy as hitting control-F. All this and macros too.

The compiler itself is little short of unbelievable, with a seemingly endless list of options available to tailor the machine code generated to cater for almost every whim imaginable. Some of these options are naturally more useful than others; for instance although it would be nice, the amount of people likely to be writing code for a 68030 with a 68882 number cruncher in tow is pretty low, but nonetheless this is only one example of the versatility of the package, and may prove handy in the future. Other more obviously indispensible options include directives for floating point formats, memory allocation, linkage and optimization details, and information for debugging.

Computers are notorious for problems of incompatibilty, but strenuous efforts are being made to standardise both hardware and software, and the C language has not escaped the attention of the people who make it their aim in life to dictate form and function. This is quite a serious business and must involve considerably more than sitting down in the pub with a bisected beer mat (or two if proceedings are brisk), judging by the time these things seem to take. ANSI have proposed a standard which is yet to be cast in tablets of granite, but most people seem to be happy with their ideas. Lattice are no exception and so you will find many enhancements to the original doctrines laid down by Kernighan & Ritchie (the writers of C). One major difference and something particular to Amigas is the "chip" keyword which forces the data it defines into the lower 512K of the memory map, where those juicy custom chips can access them. No more fooling around with AllocMem() and begging for some memory to store a sample or some sprites. Thanks guys, what took so long?

The system contains several tools for optimising your program for either speed of execution or size of object code. Firstly, internal to the compiler is the global optimiser which simply checks through the quad file (generated by phase 1 of the compiler) and has about 13 different mechanisms of speeding up execution. In fact, you can learn a lot about good programming techniques, applicable to any language, from this section of the manual.

The second way Lattice will help you turbo-charge your program is by analysing the way it runs and identifying the most active areas where the lion's share of the processing is done. Although you should have a rough idea of this, by recoding certain strategic routines you can achieve a significant increase in speed. It also suggests when it is time to give up with C and have a bash at the lightning performance of pure Assembler.

Once the compiler is satisfied with all those syntactical quirks of C, you are ready to run your program. As you press

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continued from page 21

that final return and watch the screen, nothing happens and you casually glance at the power light which is now flashing the AmigaMORSE code for "Oh Dear! I seem to have crashed". The rest is familiar - a Guru message, telling you virtually nothing and a reboot. Fear not because now you can run your program relatively safely from within CodeProbe, the source level debugger. If I had to pick a single aspect of Lattice C which I found most indispensible, it would be CodeProbe. You can single step through your program, either the C source or the individual Assembler instructions, and watch the effects they have on the various variables and registers, and also intervene, altering any of these parameters at every instruction. Having the option of using Assembler or C source listing is invaluable as many C statements may be contained on a single line of code:-

if (c = strlen (string[i++]) > 30)) PrintlText (Rp, IText, Left, Right);

This is a relatively tame example of how compact C can be and if an error occurs somewhere in a line like this, resorting to the machine code is the only way of localising the bug precisely. It also provides a good way of learning both Assembler and C.

The problems of programs waking the Guru and hanging the machine are largely dismissed with CodeProbe but there is scope for further improvements in future releases. For instance, most crashes result from the rather frail way in which memory is distributed between tasks and reclaimed by Exec, so it would be nice if CodeProbe could monitor what was going on and inform you when things are about to go down. The program takes a little getting used to as it does have a number of quirks but the effort is well worthwhile.

All C compilers have associated with them a number of standard library routines. These contain (supposedly) invariable functions for controlling memory (these are in addition to those provided by Exec), disk access (again different to AmigaDOS, but actually they do the same thing), string handling, screen printing and keyboard scanning etc. Lattice C comes with almost 300 such functions and although many are duplicated for different implementations, the list is extremely comprehensive.

The upgrade policy of Lattice is very welcome as your initial investment is protected from the ravages of developmental advances. For a relatively small amount of hard-earned cash you can climb up the ladder of each new major upgrade. In between these, Lattice are releasing bug-fixes almost daily. As an example of the rate of change, consider these figures: 44 changes between 4.0 and 5.0, 29 between 5.0 and 5.02 and over 30 to the current version of 5.04. Don't misunderstand these figures and think that the product is bug-ridden and won't do anything you ask of it. Firstly, Lattice C is massive and bound to have some problems but most of the corrections are simple fixes or enhancements, and I give the figures to illustrate the truly professional approach of Lattice to their product and customers.

In conclusion, the package really cannot be rated highly enough, and in this review I have not even mentioned some of its other useful aspects. If you want to tax your Amiga in any way you must go for either Assembler or C. The former is awkward and difficult and the latter is more convenient if slower in execution.

The price of £200 may seem high but is, in fact, good value for money. Unfortunately, it is well beyond most users as the hardware required for optimal usage (i.e. a couple of extra megs of RAM and a hard drive) adds considerably to this price tag. I think it would be very nice indeed if Lattice could release an older, stripped down version of the compiler (something like 3.1 which worked well, without any of the fancy frills), preferably into the public domain, or at least sub £50, so that more people could get into this fascinating language.

M.N.

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PIRACY.

THIS DISK COULD GIVE YOU 6 MONTHS IN PRISON

Carrie Beecroft and Simon Power investigate an increasingly common crime.

Piracy is theft. It is stultifying and dishonest. Piracy is when unauthorised copies are made for retail sale and/or personal profit. Somebody is stealing something from its rightful owners just as if it were cash from a pocket.

The copying of originals, from audio tapes to Cartier watches, has troubled manufacturers since production began. Pirated copies complete with all the "special" and "original" features of the real thing are marketed with extreme ease and success because they are incredibly cheaper to make. Because the 'pirates' – the forgers, don't have the legitimate costs of the manufacturers of the original. This is the same whether it is done by big time or small time pirates, the professional with unused audio studio time or the schoolboy with a disk copier. The piracy situation becomes more complex in the world of computers. The owner or purchaser of an original piece of software is allowed by law to produce back-up copies for his personal use. However, it is illegal to use a copy of a program purchased for use on one kind of computer on another computer. The situation worsens with the introduction of laptop computers. With Flach Cards and the conception of the two inch disk for portable computers, more and more p-eople are going to find it necessary to copy software onto different media. Considering the present situation, in doing so they will be breaking the law.

Thus, if this situation remains, with the law requiring consumers to repurchase a piece of software when the medium needs changing, a dilemma must be placed in the buyer's mind, whether he or she should spend the full amount on an original copy, or to opt for the cheap pirated alternatives. In this age of the evolving computer, where new disk sizes and indeed new media are appearing at a frighteningly fast rate, the definition of piracy needs sorting out and a standardization made.

The problem lies mainly in the mystery surrounding the policy on software piracy, and the lack of legal control. MP Emma Nicholson is currently attempting to implement "The Hacker's Bill". "This should shed some light on the subject", Ms Nicholson informed us.

"We stand no more hope in winning the war against piracy unless the legal situation is clarified and the loose ends neatened." Even people intimately involved in the computer industry show a startling ignorance of copyright ruling."

FACT: Bob Hay of F.A.S.T. (Federation Against Software Theft) informed us that the most urgent problem lies not with the law per se, but rather with the owners of copyrights. These owners have the final say as to what can or cannot be done with their product. As Bob Hay said: "If he so desires, the

copyright owner can insist that any person requiring to copy the article for either his own personal use or for the purpose of retail, must stand on his head waving his right leg while doing so. If this requirement is implemented correctly, the "pirate" copy is legal under the present copyright rules." This foolishly broad and loose legal arrangement only highlights the futility of the situation.

FACT: A number of companies have approached the problem from a different angle, that of implementing a "licence to use software" rather than allowing outright purchase of the program. The purchaser never 'owns' the software, though he does 'own' the disk or cassette. He is only licenced to use it – the title (ownership) of the software is retained by the company. All very well, but we can hardly envisage hordes of "Software Licence Inspectors", blue lights flashing and sirens wailing, kicking down doors to see if you have got a legal copy of their program or not!!!

FACT: If you own a game/animation package etc. on a 3½ inch disk, and produce a copy of this disk on a 2 inch flash card for use on your laptop, you are a thief, and have committed a criminal offence.

FACT: Connectivity between computers is ever increasing. Information delivery via wires as opposed to via disk is becoming more common. Is there a solution? No-one has been able to give us a watertight legal opinion.

Until there is a clearer legal situation, piracy will continue at its present high rate. Emma Nicholson may be successful in implementing a bill which will define the situation.

'Designer' Software

One way of combating piracy may be to improve the status surounding the original product. Just as it is desirable to own an original Sheraton chair, which displays, at least to experts, is craftsmanship as no reproduction can, why should it not be every consumer's dream to own original disks and NOT pirated coipes? We could be encouraged to buy originals by improved marketing and packaging techniques. Owners of pirate copies should not be admired for being in possession of stolen goods, any more than the owner of a pair of cheap jeans is thought by those interested in clothes to be as stylish as the wearer of genuine 501s.

John Lettice, Editor of MicroScope, confronted the problem of different media when developing software for a new medium. The Xenith MiniSport

handheld computer operates on a 2 inch disk; when testing the machine during its development, it was essential to copy programs from other media as there was no software available of the required disk size. Technically, in doing this Lettice committed an act of piracy. He suggests that software houses should change their attitude to licences so that they cater for the ever increasing number of owners of two or even three PCs. The licence should be made per user rather than per program.

Games piracy, because games software is a mass market product, is probably more wide spread than that of any software. While software houses seek ever more secure protection systems,

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TV*TEXT Professional

In a new rendering of an old favourite, Peter Lee sings the praises of a re-vamped video screen titler, with just the odd sour note

Latest salvo from the Zuma Group into the video wars battle is a remodelling of their old favourite. But there is more to TV*TEXT professional than just tagging an extra word on the title.

Zuma are long-time and much respected supporters of the Amiga - for a long period their font disks were among the finest - in fact among the only - styles available for video titling.

They hit the blossoming video titling market with two products - TV*SHOW and TV*TEXT. For their time, both innovative, with Show still just about holding its own as a special effects slideshow utility.

"I was surprised to find the program booted into NTSC format on my A2000 and was grousing at the lack of a full PAL display area when, simply by changing resolutions, the monitor gave up its entire screen to work on."

But progress in Amiga video software has been astounding, leading to fierce competition. So to maintain their foothold Zuma have obviously reassessed their titling package, revamped it in a major way and launched it into a highly competitive market.

It is clawing for your cash against the like of Video Generic Master, Tele-Titler and Video Studio. That is not to say all the programs are clones - and in fact TV*TEXT Pro. does remarkable things none of the others can - and cannot do simple things which you might have expected.

To explain: The program is, in simple terms, a screen designer. Using text or objects to lay-out your video title and save it. Nothing more nor less - there is a total absence of any display utility (other than the screen you actually edit on), and there is a sad inability to scroll your completed screens.

That gets rid of the bad news early on. But, this is the program's major surprise, and biggest shortcoming. Having to load the program to actually use your screens might be seen as a cynical marketing move to get you to buy the companion TV*SHOW program ($99.95 to you friend), were it not for the fact that there are plenty of other slideshow/effects generators around, which are just as good, and often better.

Having thrown a brick so early, and to redress the balance, I have to say I was pleasantly surprised to discover Zuma had bundled their three font disks with the program disk. The styles are workmanlike and very beefy, though best used in the higher resolutions.

TV*TEXT needs a minimum 1meg of RAM and works in all Amiga resolution including 64-colour halfbrite (but not HAM). I was surprised to find the program booted into NTSC format on my A2000 and was grousing at the lack of a full PAL display area when, simply by changing resolutions, the monitor gave up its entire screen to work on.

There is nothing in the manual about PAL display, but I somehow arrived at it, and although I cannot initiate the program to this format, I can coax it out with a screen format change once the software is running. But for some reason the program's 'high resolution' mode is only the same as DPaint's medium resolution - which in any event is just about adequate for videotaping.

The display can be configured in medium or maximum overscan, and although this latter option might have been a little more generous, it gives a good area from which to dump to

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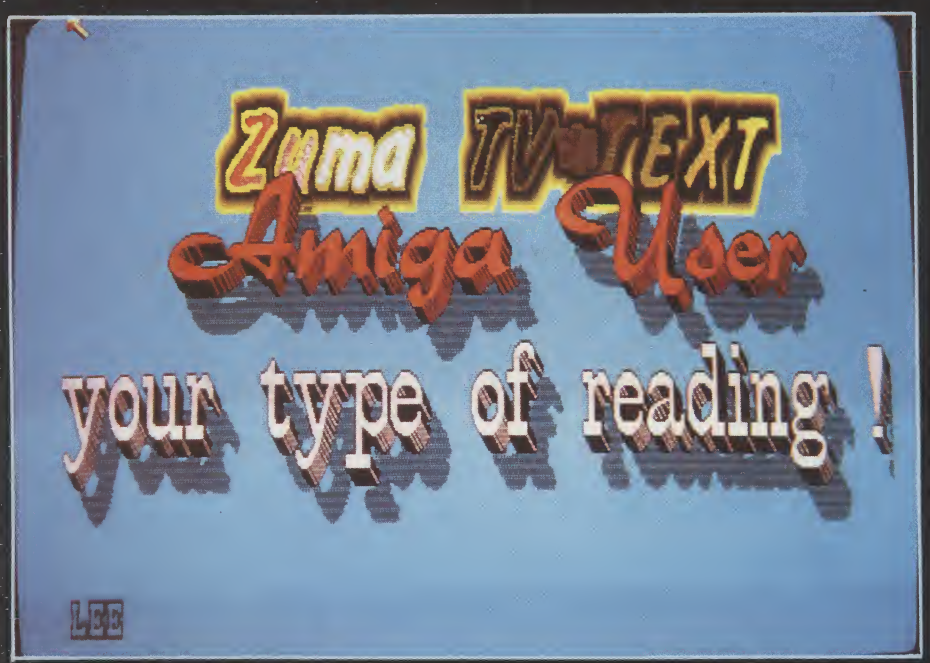
videotape.

And believe me, you WILL want to record your titles. Delving into the many wonderful attributes of the program will take a little time, but the amount of control over the finished screen, and the resulting transfer to video, make this much more than a simple text generator.

It is a really a special-effects system for text. From outlines, shadows, metallic glints, sheens, extrusions, strobes and highlights, it does for video text what DeluxePaint does for art.

You are not restricted to the pleasant fonts supplied with the program, but can access any standard styles you may have. The font-requestor is well-designed, and text is input in a line-editor which opens at the top of the screen. Your text is entered in true WYSIWYG style, according to your typeface, and the character spacing can be altered to either open up the word, or close it to fit a tight line.



Once a line of text is confirmed, the rendering process takes place, when all your selected attributes are calculated - with helpful message boxes flashing up telling you how near completion an effect is - and the text finally makes its appearance as a brush controlled by crosshairs.

Exact positioning is possible before stamping down the line on screen. If you are dissatisfied with the rendering, you can easily trash the line, alter a parameter or two, go back to the line editor and call back your last input to begin re-calculating.

The effects which can be brought to bear on a line of text range from the thickness of a character's outline to the position and density of a drop shadow (there is also a simple-to-control variable light source to cast the shadow exactly as required).

Text effects can be selected from an on-screen menu requestor, which also acts as a function key controller, through which you may assign a particular effect to a function key, to be instantly available without accessing the menu. A neat trick, and even better is the opportunity to save your definitions to disk for later use. The preference editor allows a fine degree of customisation, enabling you to out-do the programers' selections and create your own distinct style.

Although the program is concerned primarily with displaying text, it also includes a number of quick and easy full-screen effects for creating backgrounds. At its simplest level this could flood fill the screen with a word or object you have copied from the screen, but there is a fine full-screen dither fill, which uses a range of colours specified in the palette to give a choice of eight discreet fills (always bearing in mind that you may well want a transparent colour somewhere through which a genlocked video source signal will appear).

Having mentioned the ability to copy portions of the screen (very much like the DPaint brush option), I should mention too the ability to re-size or rotate them before stamping them onto the background. Regular areas of screen can be cleared in this way, by cutting out the unwanted area. If you make a mistake along the way (and who doesn't?) then a one-stage undo feature is available.

To prevent accidental destruction of a background, it can be locked, allowing all forms of editing on subsequent text or objects, secure in the knowledge that they can be erased, but your original screen remains intact. Stencils, too, can be defined which unlike DPaint's concept, preserve whatever you have already placed on a locked background. This will allow you to place a box behind an already laid item instead of on top of it.

The small number of rudimentary drawing tools available can be made quite spectacular by having special effects operate on them. A simple filled oval can become a highlighted gold disk in one rendering, and simply by drawing out a box you can render a burnished highlighted panel on which to overlay your text.

"If you make a mistake along the way (and who doesn't?) then a one-stage undo feature is available."

Objects (or brushes) can be loaded into the program and pasted on screen in either their own colours (remapped to try to fit the current palette if you want), or as an outline rendered to your current choice. This can produce some weird effects, but I found it particularly useful for logos or well-detailed brush images.

Finally, one stumbling block for a number of programs of this kind is the manual. I am glad to report Zuma have produced a clear, well-illustrated book which spares no detail, and is as helpful as it can be. Full details of startup configurations are given, together with hints for various disk configurations (including hard-disk transfer of the unprotected program disk).

CONCLUSION

The lack of any screen player or slideshow utility is the major objection here. At a price of over #100 I would have expected a more rounded product, although the inclusion of the three Zuma Fonts disks does sugar the pill. As a text generator it does a perfect job. The rendering styles are innovative and eye-catching, with full control to enable many different effects to be displayed. But I have slight misgivings about the way I had to wangle a PAL screen, especially as nothing on the packaging nor in the manual mentions PAL support (though NTSC format is mentioned along the way). It seems too much like a lucky discovery - if it was meant to do that, why not open the program directly into PAL? Otherwise a winner from Zuma, and something which certainly deserves consideration for professional or hobbyist video work.

P.L.

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continued from page 24

PIRACY ...

hackers often just regard them as challenges.

Some software houses are now refusing even to release games to magazines for fear of piracy. One games magazine was accused last year in being involved in allowing early copies to be made, which ended up being sold cheaply off market stalls.

Domark only permit games reviewers to go to their offices to examine their game before release and do not permit their removal. Dominic Wheatley, Domark's joint MD, says "getting a copy of a game *before* it's released is what really turns them on. We don't take any chances now."

It is estimated that for every audio cassette sold, two are copied. There exist no similar estimates for the software business. Copying is easy and profitable. Few professional copiers are caught though it is not unusual to find dealers casually making a copy of a piece of software to substitute for a defective return. And at public schools, one boarder will buy and supply the boys in substantial quantities.

Thus the confusion continues. Until a clear licence agreement is standardised, that deals sensibly and fairly for those people with more thanone machine, an adequate solution cannot be reached. Unless the concept of intellectual property is clarified and everyone, schoolchildren included, is successfully made aware of the damage copying does and the seriousness of the crime, piracy will not be eliminated. Unless, of course, we all return to hardware, like Nintendo and its cartridges...

C.B. and S.P.

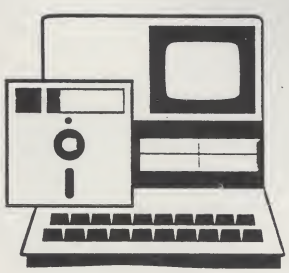
"It's against the law to pirate software. You can be fined £2,000 or go to prison for six months."

UNIX (Part II)

Andy Eskelson explains the operating system predicted to take 50% of all personal computer business by 1991?

Another command that is similar to grep is awk this is much more advanced than grep, because the user can specify what will happen when a pattern match is found. This utility is often the basis of report writing programs.

There are so many commands available in the Unix system that you can by combining them create even more. The number of commands varies from version to version, but there are over 200 in the smallest of the Unix systems and this number can grow to over 300 if you call the scripts that the programmer can write, commands or not. Contrast this with AmigaDos which has about 80 commands, AmigaDos is a fairly good



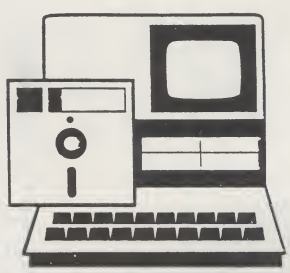
system, in that you can write extensive script files for it, but the wealth of commands that Unix offers makes AmigaDos look like a toy.

The file processing commands that Unix offers are very extensive, we have already looked at grep and awk, and they are only the tip of the iceberg, remember that many Unix commands have extensive options that changes the way in which they work. To mention briefly some of the commands: you can join files, cut selected parts of a file out and merge it into another file. Sort the data, and compare two files. It is also possible to encrypt files with a keyword so that only the owner of these files can read them.

Another selection of commands available to Unix is that of text processing. Unix has very strong text processing capabilities, these range from simple text editing to graphic presentation.

There are two main editors **ED** and **VI. ED** is a line editor similar to the Amigas **EDIT** and **VI** is a screen editor similar to **MicroEmacs** these are use to create the text file in the first place. When the text file needs to be printed it is normally run through a text formatting utility; **nroff** is one such utility. nroff means **New RunOFF** with the options available you can produce a file ready for printing. nroff allows for most of the text formatting options that you would expect in a powerful wordprocessing program, such as headers and footers, justification centering etc. These commands are activated by inserting a dot command such as **.ll 80** to set the line length to 80 characters and such like.

Troff is a more advanced nroff, in that it is designed to work with high resolution devices such as phototypesetters. Troff allows the font type to be changed. Both nroff and Troff can be driven by a macro type utility that makes life for the user a little easier, several

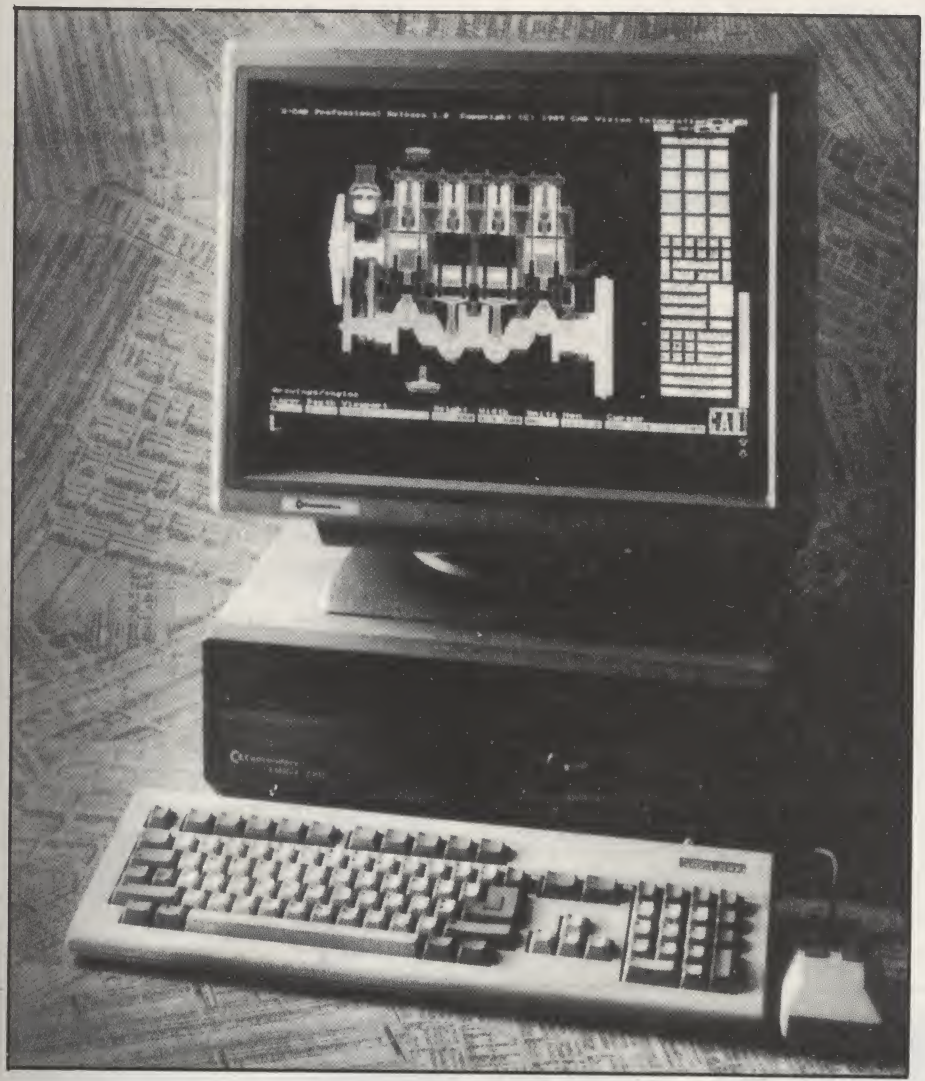


command options of nroff are strung together to create a composite command. This is another example of the way that Unix allows programmers to interact with the system to produce very powerful tools for the user without destroying the simplicity of the original Unix commands.

There are more specialized text formatting procedures that are available such as table formatting, equation formatting with various options also available within them.

CALCULATOR

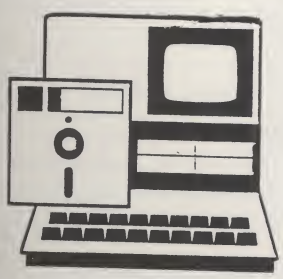
There is a very powerful calculator built into the Unix system, it is more like a programmable calculator than a simple calculator. It can store a sequence of keystrokes that can be recalled later in a calculation. There is a more advanced utility called **bc** that offers much more programability, in a manner similar to



the BASIC language, with **if then** loops and the normal range of conditional testing.

Unix offers the users a simple electronic mail facility that enables messages to be left for other users to read when they next log on. Providing that a link exists it is also possible to send mail to users on another system. It also provides a simple calendar facility with a reminder facility. this allows the user to jot down dates to attend meetings etc, an to have the system put up a reminder when the user logs on. This is programmable and can be tailored to suit the users needs.

The graphic functions offered range from simple Histograms (bar charts) to complex curve fitting operations, several statistical functions, and trig functions are all available. There is a special graphic editor, ged that the users can use in conjunction with a compatible graphics terminal.



UNIX AND C

Unix was produced to perform the task of software development, and it is in this area that it has its largest usage. Unix contains several tools that make it possible to manage large software projects, some that may involve several different teams of programmers. This is the SCCS Source Code Control System.

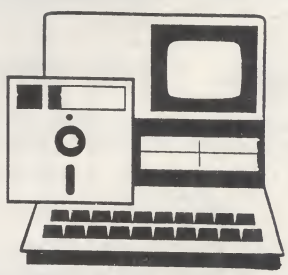
As Unix and C were developed more or less at the same time you will find that Unix is now written in C and many features are based around this language. It follows that C is well supported as a development language on Unix systems and there are several utilities that are dedicated to the C language. We have already mentioned the C shell csh so here are a couple of others: **.lint** this checks the syntax of a c program, this helps to eliminate many of the typing errors that can creep in. It is also used to test that the program follows the rules of C, so that the program can be ported to another system without too many problems. This is done by checking the program to a stricter set of rules than the C compiler actually needs. Checks on variable initialisation and redundant statements are also performed. There are even utilities that will produce a set of source code routines that will perform text manipulation. These are called **lex** and **yacc**. These assist the programmer to produce code that will analyze a users input line and break it down into the required sections.

NETWORKS

It is possible to connect Unix systems into a network, and there are many such networks about. When you are authorized on the systems concerned it is possible to logon to your own machine and then request a connection to a remote Unix host. Once that connection is made the user can use that machine as if he were directly connected to it. There are utilities that manage the transfer of files across different systems, list the names of known remote systems etc.

CONCLUSION

As the power of personal computers rises it is not surprising that Unix has started to appear on such machines. This trend has been coupled with a steady decrease in the price of high capacity mass storage systems that are required to hold the large amount of information that the Unix system needs in order to operate. 300 utilities and assorted system files take up considerable disk space! With the announcement of the new Amiga 3000 series that will be running Unix, and other Intel 386



based machines also running the system, the trend for Unix to move down market will continue for some time. This will mean that a system that has been responsible for the development of many operating systems and programs will become available to very small scale users. How this will influence the the personal computer fraternity remains to be seen, I expect that we can look forward to some very lively debates and programming.

This article has only covered Unix in a superficial form. If you want to know more about Unix, there are many books on the subject. It is worth having a browse in the local library. It may also be possible to get some 'hands on' experience at a local college computer workshop.

A.E.

MENTOR

QUAD - Quick and Dirty

This month's article in the QUick And Dirty series illustrates the use of Intuition to set up a 320*200*4 screen which we may then seize for our own uses. It serves as a relatively simple way to acquire and configure memory as a display screen without going through the (sometimes laborious) process of allocating memory and setting up copper lists etc.

I often use this as a 'skeleton' piece of code with which I can then test graphic subroutines which will eventually be incorporated into a larger project.

The example program is not 'legal' in such that it stops the Amiga from multitasking and locks out interrupts by using calls to the Exec Library. The Amiga documentation suggests that it is not wise to lock-out the machine for long periods of time but in practice I have experienced no problems using this technique.

You may find details of the relevant structures in the Intuition Manual and the Libraries and Devices manual since space limitations prevent a complete discussion here. However, for those of you not familiar with the system at this level, I will touch briefly on the more important aspects of using the OpenScreen function.

Obviously, it is necessary to provide Intuition with a certain amount of information describing the display to be rendered. This structure is of type NewScreen - see the label 'Quadscreen' in the accompanying listing for details of the structure elements. After a successful call to OpenScreen, D0 holds a pointer to a Screen structure which contains further elements such as the screen's RastPort (describing rendering) and ViewPort (desribing display modes and controlling the palette).

The pointer to this structure must be preserved since it is required in order to close the screen later.

Contained within the Screen structure is a BitMap structure which contains the following elements:-

```
bm_BytesPerRow   .W
bm_Rows          .W
bm_Flags         .B
bm_Depth         .B
bm_Pad           .W
bm_Planes        .L*8
```

It is interesting to note that the system provides space for eight plane addresses even though the hardware currently supports only six planes.

We have opened a four plane screen and therefore only store the first four long words with a movem.l instruction.

Having stored the pointers, the call to Draw-Rectangles may be made which draws directly to the planes themselves. Notice the overlap between plane two (value two) and plane four (value eight) which results in a rectangle of colour ten.

The program was written using HiSoft's GenAm2 assembler which is readily available. Those of you using different assemblers should encounter few difficulties converting this code. The CallExec, CallGraf and CallInt macros merely load A6 with the library base pointer and indirectly call the named subroutine.

G.Z.

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Tele-Titler

Do superior end results justify the means ? In the case of a new video titling package, Peter Lee wonders if overcoming the obstacles is really worth it

Calling a piece of software 'professional' is more than just a marketing ploy. It has to be, otherwise software houses would simply slap a zero at the end of their prices and claim everything was aimed at the pro. But people who need tools to help them earn a living are a discerning lot: it is a market with a lot of financial clout, and in terms of the Amiga, a very demanding one. After all, some of the very best programs have been written for the computer - people expect standards to be maintained.

So any dedicated item of professional software had better get its act together if it is aiming its sights at this market - even more so when it packs a price just simmering under the £200 mark.

So how far does Tele-Titler, from Netherlands company Alldata, justify the criteria ? If the finished computer output is any yardstick, then it gives superb results. But if ease of use is your measurement, it falls short of expectations.

The program is a titling package for video genlocking. Several packages exist in this field - a compliment to the Amiga's unsurpassed graphics potential - and Tele-Titler brings some fine effects to the genre.

The main trouble is that they are accessed by a nightmare front control panel with more control gadgets than is healthy on one screen. This is initially disruptive to the learning process, but clearly perseverance pays dividends.

It is perhaps a reflection of the program's power that there is so much to take in, though the manual is something of a let-down to the newcomer.

The software comes on one disk, and will only function if a dongle - a hardware anti-piracy device - is slotted into joystick port 2 all the time.

Unfortunately the clumsy design of this dongle meant it would not seat itself in my A2000 (whose ports are cunningly recessed to maximise frustration), so I had to buy a port extension cable.

The program needs a minimum 2 megabytes of additional memory to work, and this opens the potential for around 2,000 scrolls - giving hours of continuous titling operation, if at the same time serving to increase the outlay. These titles can be stills or moving titles in a variety of directions, colours and styles.

The one gigantic flop of the whole package is the complete lack of any special video fonts; all that exist are the dire selection on the workbench disk (who wants their name emblazoned in 11pt topaz ?). So obviously you will need to invest in a set of usable typefaces; there are plenty on the market - at a price - but a professional utility that misses this opportunity is hardly likely to endear itself to users. It is something which almost throttles the program before it gets started.

This aside, Tele-Titler is very clever at what is a simple job - moving text around in a smooth way so you can add a professional touch to your video work. Up to four different text components may be shown at once - with different font attributes, colour and movement definitions. One particularly nice effect was the ability to scroll left to right at the top of the screen whilst rolling credits from bottom to top simultaneously. I can think of no other program which allows this flexibility.

These text components can be used in conjunction with two-colour masks; a number of simple ones are included on the disk, but provided you stick to the expected resolution (704 x 285 pixels) you can define your own in an IFF art package capable of working in just one bit-plane. A mask allows part of the screen to be covered with a solid colour, with a pre-defined area showing the incoming video signal. Up to nine masks can be defined and used during any one session. In fact masks can give way to masks during the playback, fading in or out as necessary for some innovative effects. One of the nice attributes of the program is the opportunity to import ASCII text for your titles instead of having to use the in-built editor.

This is simply a half-screen job which uses the chosen font and colour, and gives a WYSIWYG display. However, if you have chosen a horizontal scroll the line is endless - pressing return has no effect.

In vertical scroll mode, your text is shown according to a number of preferences - justified left, right or centre, with the amount of character space (the gaps between letters) conveniently adjustable with a few clicks on a gadget.

Amending text is achieved in the usual text editing tradition, though

when a long line of horizontal text has to be searched through, things tend to become wearisome.

Text can have a variable shadow in any colour you wish - this is often a useful dodge for bringing out words which might otherwise be lost on a light video background. Scrolls can be moved at varying speeds, with the lowest setting signifying a static screen, and can be made to move left to right or vice versa, and up or down.

Positioning of the actual text scroll is achieved by entering numeric data, as is the exact time an event will happen; timing is critical for multiple transitions, and while overlapping scrolls are not permitted, you can achieve some finely-tuned moves from various juxtapositions. But you have to master the program's critical timing aspect for positive results.

A smattering of special effects is available which can be timed to kick in at any point during the display. These include fades and selection of a new scroll bar position, though they need careful use if they are to be of maximum benefit. One of the easiest achievable effects is to simply change the colour of a scroll as it moves.

Throughout a session the program very helpfully prints up messages in the commentary box - useful in view of the manual's shortcomings.

CONCLUSION

The disgraceful lack of any alternative titling fonts cannot be overlooked in a high-end video program, and although it is a shortcoming which can be remedied by dipping further into the wallet and buying some of the excellent third-party styles available, I just don't see why one should have to. As a titling utility, the program's output is superb, if awkward to master to begin with. Mixing masks and scrolls opens up the way for some creative video experimentation. You will obviously need to have invested in the normal video hardware - source (VCR or camera), destination (VCR) and genlock to be able to use this utility, and although text is not displayed in high resolution, the smoothness of scrolling is fluid and professional and transfers well to videotape. However, with my misgivings about the general difficulty level of the program, I would have to advise potential purchasers to measure this utility against the competition (which we have tested regularly in *AUI*). After all, time is money, and it strikes me that Tele-Titler will be demanding in this respect.

P.L.

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AMIGA SOUND-BLASTER

Bob Collyer hears the Amiga echoing through the windmills of his blown mind

Siren Software can give your Amiga the sort of sound that other ordinary Amigas cannot begin to reach. They have produced a package that comes complete with stereo headphones, a small amplifier, mains adaptor and two beautiful speakers that are capable of turning your computer into a pretty powerful beast that can roar loud enough to even make the neighbours sit up and take notice.

I am sure that all Amiga owners are already aware that their computer is capable of producing some very impressive sound. But have you ever connected your machine up to a hi-fi system and just listened to the astonishing range of frequency responses that the Amiga is capable of producing? Anyone who has a machine within connecting distance of a hi-fi should do so. Why should any self-respecting owner who bought an Amiga because it was capable of 4096 colours, that always astonish are are forever bombarding the visual senses, lose out on an audio experience second only to Pink Floyd live!

If you have to sit and listen on an ordinary TV or monitor in mono then don't waste any time, contact Siren Software now! I own a stereo monitor and must think myself lucky, I suppose, but even that is not capable of producing a sound of any quality.

A very simple setup, turn off the machine, disconnect your phono plugs, plug in the new phonos, connect the Soundblaster to the mains adaptor, connect the two speakers, switch on, slide in your favourite music demo disk, sit back and just listen. You will not be disappointed.

There are independent volume controls for each channel, I must add at this point that the knobs turn in the opposite way to what you would normally expect. They turn anticlockwise to increase the volume, not clockwise. An unexpected sound blast was just waiting to happen in the Collyer household.

I was trying to get the sound turned up to a volume that my wife, in the next room, could just about tolerate without having to reach out for the valium bottle, when she came bursting in, tried to turn the damn thing down, only to succeed in Chernobyl II! Giving us all a sonic experience similar to playing Black Sabbath at 78rpm... enough to see God!

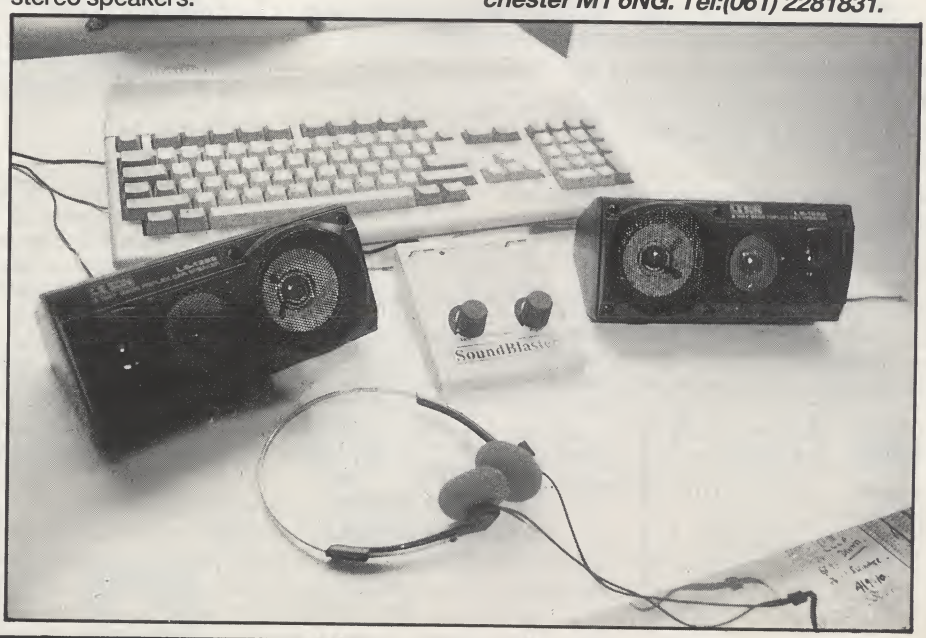
After being blasted a couple of times you soon get used to the peculiaritities. Just one other point. Don't place the speaker too close to the monitor as they can have an adverse effect on your picture and damage your monitor. These little beasties measure 8" x 4" x 4" each and contain a 3 way speaker system, bass reflex, mid-range and tweeter similar to the large shelf mounted in-car stereo speakers.

The package has a pair of small headphones, this is to give the rest of the household a little relief and a chance to talk to each other and catch up on listening to other mundane things. Now I can be totally absorbed into a game such as sitting on the starting grid surround by the roaring engines, all that is needed to complete the reality is the smell of high octane racing fuel. As a surprise Christmas, my wife says she will give me a lighted candle and a can of fuel... some surprise!

For mono Amiga owners this additional hardware is a must. Super stereo at a really reasonable price. For those with stereo already, Soundblaster undoubtedly has far better sound qualities than the standard monitor and could give your Amiga a new dimension. So many games these days have great sounds. Enjoy them even more.

B.C.

Price: £44.99 Contact: Siren Software, 84-86 Princess Street, Manchester M1 6NG. Tel:(061) 2281831.



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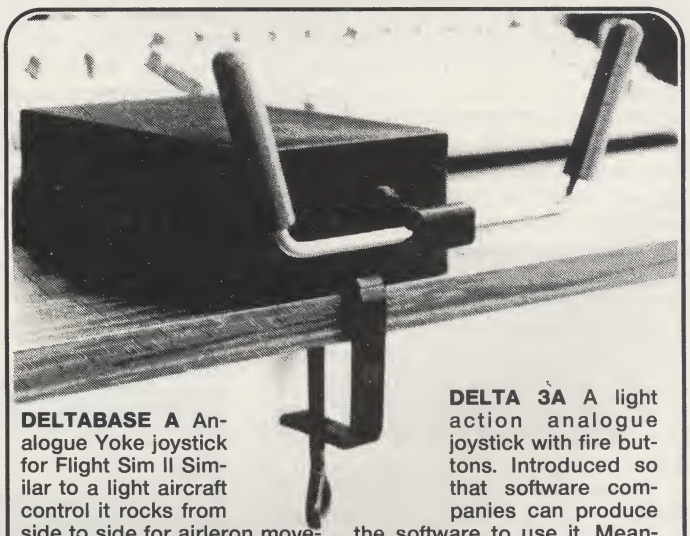

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High-Level Languages and Their Compilers

By Des Watson (Addison Wesley £16.95)

There are two things that are of immense help to the serious high level language programmer - an understanding of the principles of assembly language and a general appreciation of the problems involved with the design and implementation of high level languages.

Des Watson's book tackles the latter set of problems and it is one of the best serious introductions that I have come across for a very long time. Part one provides a combined overview and historical summary of high level languages. The early chapters look at why high-level languages are needed, how various language types have evolved and the strengths and weaknesses of particular lines of development. This material is easily readable by anyone who is interested in computing and it provides a very solid introduction to the problems which this type of software poses.

The second part of the book is harder going. Compiler design is no longer a 'magic art', it has been the subject of an immense amount of theoretical work over the last twenty years or so and both the notation and theoretical arguments involved are nowadays quite sophisticated. Part two opens with a chapter covering the basic ideas of syntax specification, semantics and parsing. Topics such as the BNF (Backus-Naur Form) representation of context free grammars are dealt with along with various extensions and alternatives (such as EBNF notation). There is an introduction to formal grammar classification and a useful discussion of parsing strategies.

Lexical analysis (the lexical analyser is the part of a compiler which makes the preliminary interpretation of a source code, recognising tokens and other simple units) is treated very thoroughly - a lot of material is covered and it will, unfortunately, be heavy going for anyone who hasn't got a reasonable modern maths background - you will be expected to know about such things as transition-state matrices, basic set theory notation etc. The arguments used are not particularly complex but if the notation is unfamilar you are likely to work hard in places in order to get to grips with it. Essentially this is computing degree level material - so you you would not expect it to be a particularly easy ride!

Syntax specification and semantic analysis are also dealt with on a similar level to the chapters on lexical analysis. Nowadays there's a wide range of suitable techniques to choose from and this book provides a good account of the potential option, dealing with simple precedence grammars along with techniques like recursive-descent, LL(k), and LR(k) parsing.

The last section of the book deals with the part of a compiler which produces the final output, i.e. the code generator. Run-time storage allocation and management, argument passing, code optimization and various other topics make for interesting reading but again it's serious stuff and quite definitely not aimed at those with only a passing interest. The tree techniques used in the analysis of arithmetic expressions are particularly well covered (with plenty of diagrams to assist the explanations).

The book concentrates on the underlying theoretical issues, so there is not an awful lot of code presented although you will, from time to time, come across the occasional Pascal-based algorithm.

This is a book which is well worth reading - it provides an up-to-date 'theoretical underpinning' of the subject, offers some valuable insight into the related problems, and i short will be very useful to anyone with a serious interest in high-level languages.

ISBN: 0-201-18489-3 **P.A.O.**

Amiga C for Advanced Programmers

By Bleek, Jennrich and Schulz (Abacus/Data-Becker £29.95 Optional Disk £9.95)

Abacus/Data-Becker are making quite a name for themselves as far as Amiga programming books go and this latest addition fills another important gap in the Amiga literature. It is aimed at users who are reasonably familiar with C, have started to come to grips with the Amiga, would like to tackle some 'real programming projects', but need to be pointed in the right direction, i.e. need to have some o the Amiga specific stuff explained.

After some introductory notes about compilers, assemblers, linkers etc., the book moves straight into an explanation of Intuition and its facilities. As might be expected, screens and windows are first on the list of topics with images, gadgets, requesters, alerts, menu operations and many other related topics followingly closely behind. There's a lot of useful information provided and it is all aimed directly at the serious Amiga user. Other topics including the IDCMP, the Console device, memory management etc., all get dealt with and there's certainly no shortage of explanations, hints, and useful examples.

The latter half of the book helps to put all the pieces together by dealing with the creation of a single large applications program. It is a step-by-step account of the design, and implementation of an Amiga specific text editor and, as far as I'm aware, it's the first time that this type of detailed account of a fair sized Amiga program has appeared in print. Abacus offer a disk containing everything from the development source code right up to the finished editor (in fact it contains every example listed in the book) and, although the book is valuable in its own right, if you were thinking of actually implementing the editor then the extra cash spent on the disk would be well worthwhile.

One of the main stumbling blocks of C programming, at least as far as the Amiga goes, is the complexity of the Intuition Interface. Most introductory C books ignore this area completely, whereas the heavyweight Amiga technical manuals tend to assume you either know exactly what you're doing - or that you will have little difficulty in working it out anyway. This book fills the gap between these two extremes, and does it very well indeed.

P.A.O.

Contact: 16-Bit Software (Dept J), 24 Bankfield Lane, Rochdale, Lancashire OL11 5RJ. Tel:(0706) 43519.

RUNNING MS-DOS

by Van Wolverton (Microsoft Press £19.95/$22.95)

There are many books that try to explain the workings of MS-DOS. The manual that accompanies the software is, like many manuals, comprehensive but sometimes not as easy to understand as one could wish. And every few months, it seems, another how-to-work-it computer book on DOS appears.

However, for users of MS-DOS there has long been just one definitive aid. It is called 'Running MS-DOS'. Published four years ago, it has since sold more than one million copies and is what could be called the 'bible' of PC users.

This edition of 'Running MS-DOS' written, as before, by Van Wolverton, is the fourth. It is completely revised and updated and covers all versions of DOS up to and including 4.01 and the new DOS shell.

In the acknowledgements, Wolverton remarks that his mother preached the doctrine of clear writing. He has certainly taken her lesson to heart. The book is written in about as clear and easy to read and understand format as one can get. As he also says, it is not for programmers. It is not even for anyone aspiring to *become* a programmer. It is for the ordinary PC user who wants to use MS-DOS for word processing, spreadsheets, database management, perhaps household accounts, or even just some games.

Part 1 is primarily a tutorial. Getting to know MS-DOS, what it does, why you need it. Part 2 shows hoe to use it to manage your work on the computer, how to create your own commands and how to tailor the system to your own needs. It also includes a helpful chapter on using EDLIN (the DOS text editor). The final part contains the appendices which include changing DOS to suit different languages, a glossary for those unfamiliar with computer terms – a particularly useful aid, I think, for anyone new to PCs – and a comprehensive reference to DOS and EDLIN commands.

There are innumerable step-by-step examples coupled with the text and, a great help this, the commands to be keyed in by the user are printed in red so that there is no ambiguity between what should appear on screen (done in normal black print) and what is to be entered via the keyboard.

Although 'Running MS-DOS' is primarily for versions 4.0 onward it can just as well be used with earlier versions for Wolverton gives instructions for most of them. As an experiment, I tried with version 3.2 and found that it worked with that, too, and although in my early version some of the file names differed slightly it was very easy to adapt the instructions.

One warning. This book is definitely a hands-on tutor. Don't stand in the bookstore and leaf through it and wonder 'is it for me?' For, like many how-to manuals, it is easier to show by example than merely to explain. Just reading the text will not, if you are a comparative novice, be much help. But the many on-screen exercises given will be. If you can afford the £19.95 or $22.95 that it costs, it will be cash well spent.

Sit in front of your screen, boot up the program, open up 'Running MS-DOS' and I can almost guarantee that in a few hours you will be, if not an expert, at least a reasonably competent and able operator of the system.

D.M.

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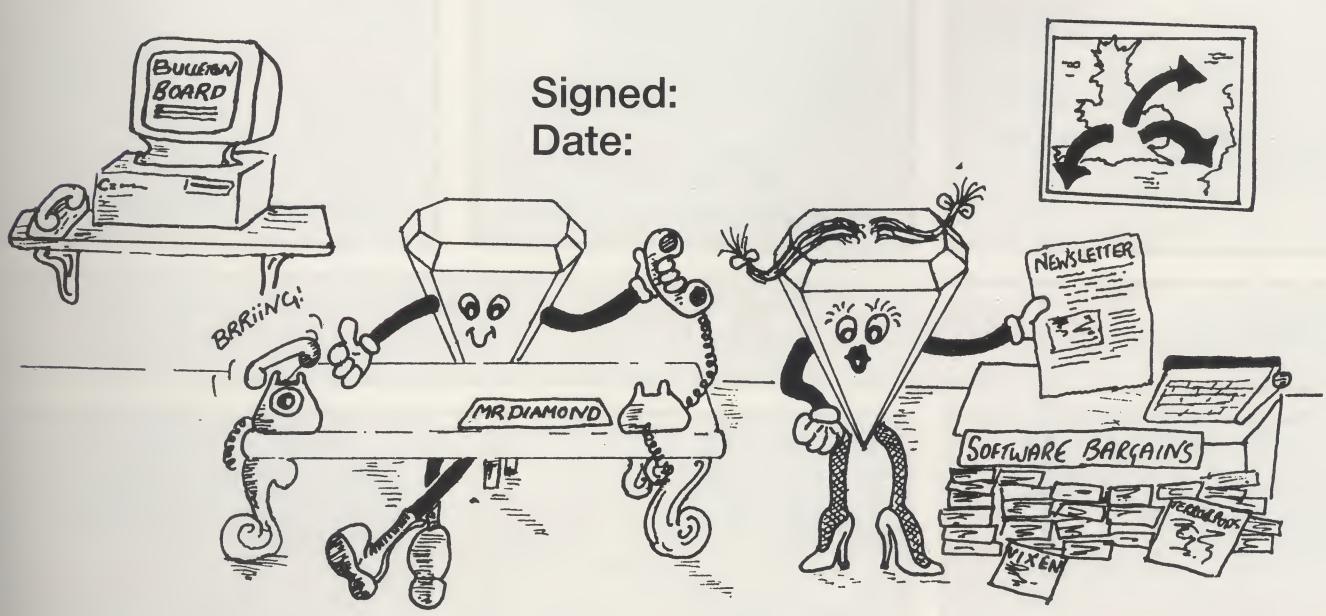

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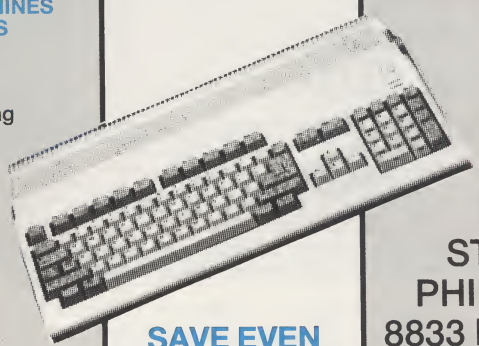

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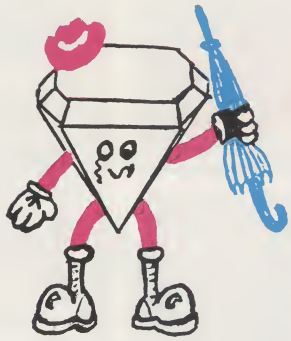

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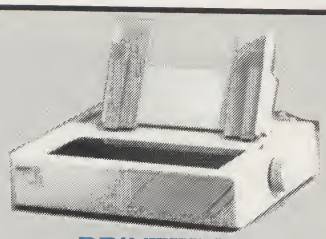

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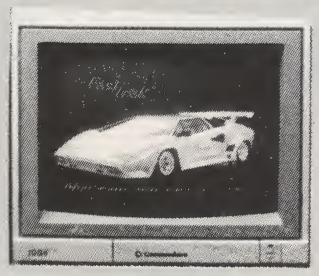

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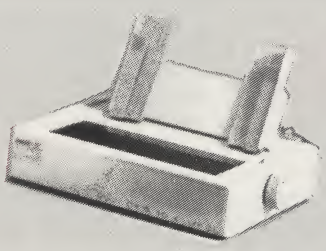

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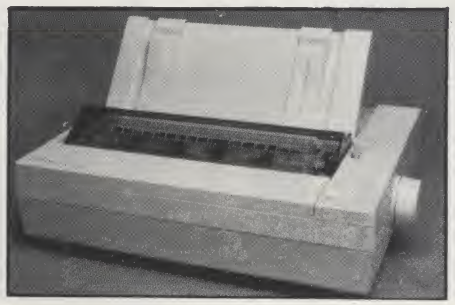

Kati Hamza tests the AUI Printer of the Month

Epson has a very high reputation for producing top-quality dot-matrix printers (even the eminent Professor Heinz Wolff has been known to endorse them). The Epson LX-850 is no exception, though like the rest of the Epson range it is just a little more expensive than an equivalent machine might be from another manufacturer.

As you would expect, it comes with a standard parallel interface and clear, concise instructions, with extensive illustrations, on how to fit a serial interface if you need one. The print buffer is 4K.

The ribbon, relatively inexpensive as Epson ribbons tend to be, is in cartridge form and has a life expectancy of 3 million characters (at 14 dots a character). Print head life is estimated at 200 million strokes per pin.

Print comes in draft or near letter quality. Draft uses 9 by 9 dots, near letter quality 18 by 20 dots. Bit images up to quadruple density can be printed. There are four different typefaces; Epson high-speed draft font, Epson draft font, Epson Roman and Epson Sans Serif. Character pitch can vary between 10 and 12 characters per inch, which works out at a maximum of 80 and 96 characters per 8 inch line. Up to 160 words can be fitted on to a line if the characters are condensed and other font variations include vertical spacing at 1/6, 1/8, 7/72 inch, double strike, emphasised and italic characters. Near letter quality characters, however, cannot support condensed or double strike mode.

Further print commands, listed at the back of the manual, offer a host of other options, including setting tab stops, performing horizontal skips, double-width printing, subscript, superscript, justification and so on.

There are 96 standard ASCII characters and 13 international character sets plus a further selection of graphics characters. International characters include Danish, Swedish, German, French, Japanese, Spanish, Norwegian, French and Latin American. You can also create and download your own user-defined characters; the LX-850 can store up to 6 of these at any one time.

Printing is normally bidirectional with logic seeking though you can select unidirectional printing if you wish. Speeds vary from a nifty 200 characters per second in high-speed draft mode, through 150 characters in normal draft down to 25 characters per second in 10-pitch near letter quality mode. If you print a lot in draft copy you would be hard pressed to find anything faster at the price. Equivalent machines on the other hand may print near letter quality characters at a slightly faster rate.

"The printer will remember the continuous paper loading position even after it has been switched off"

The LX-850 has its own in-built push tractor for continuous fan-fold paper which is loaded from behind the printer and also takes single sheets. You can purchase an additional pull tractor to assist the push tractor in dealing with specialist continuous stationary such as multi-part forms or address labels. An optional roll paper holder can also be fitted on to the back of the machine.

A seven-position paper thickness lever adjusts the printer to deal with a wide variety of different types of paper thicknesses, ranging from ordinary single sheet paper to bond envelopes, 3-sheet multi-part paper and labels. Paper must not be thicker than 0.25mm and envelopes no thicker than 0.52mm. The printer can cope with cut sheets up to 182 to 257mm wide and 182 to 364mm high. Continuous paper can be anything from 100 to 254mm wide.

If you wish to change to single sheet paper in the middle of using continuous sheets, there is no need to remove the continuous paper; just press the LOAD/EJECT button to back it out to standby position and load in a single sheet. A special microadjust feature lets you alter the loading or short tear-off position. The printer will remember the continuous paper loading position even after it has been switched off; you need to reset it every time for loading single sheets.

Form feed, line feed, condense and font switches are all located at the front right of the printer and are extremely easy to use. A system of beeps lets you know which font you have selected (one beep for draft, two beeps for Roman and so on) although there's no way of telling which font you happen to be using just by looking at the panel.

The DIP-switches on the right side of the machine are easy to get to. There are 12 switches in all and they control such functions as default pitch, shape of zero (slashed or not slashed), draft printing speed, auto line feed, page length or whether a cut sheet feeder is in use or not.

The LX-850 is a very efficient, easy-to-use printer. Draft printing speeds are extremely high and the near letter quality text is of a high standard. It has plenty of printing options though a selection of only two near letter quality fonts does not quite match up to the variety offered by some of its competitors. The extremely helpful instructions are beginner-proof though if you want to program your printer you will have to send off for an extra programming manual which is free. The only obvious drawbacks are the absence of a wider variety of pitch and font selections and the slightly higher Epson price but if you have a flexible budget and are after a straightforward, quality 9-pin printer, you should definitely take a look at the LX-850.

K.H.

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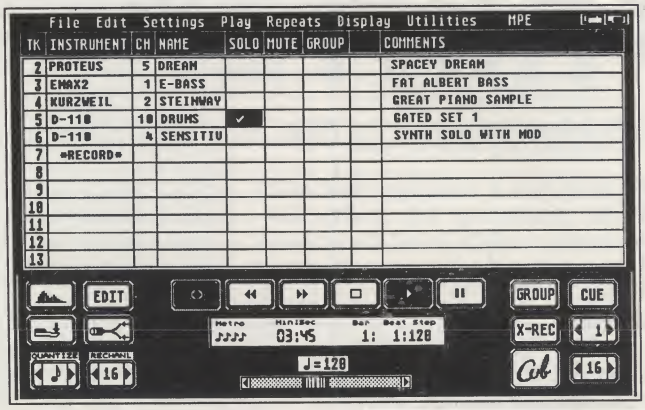

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PROGRAMMING TOOLS

Paul Overra looks at the use of the flow chart and gadgets

You don't get far into the world of Amiga programming before the need to create and use image data arises. Gadgets, menus and a whole lot of other Intuition objects use bitplane orientated 'image' structures for representing graphics. If you are just starting to learn about Intuition you probably think that using just plain 'high-lighted' rectangular gadgets etc., is quite enough to worry about without getting involved with gadgets which use fancy graphics. You would be wrong because using image data in conjunction with Intuition is very easy — nowadays there are a lot of graphics tools available which can help.

Three stages present themselves: Firstly drawing the graphic item you want, secondly storing it in a way which allows you to easily modify it if necessary, and thirdly converting it into a form which can be used from within your own programs.

The first part is easy. Drawing programs, such as Electronic Art's DPaint, have taken all of the hard work out of the actually drawing a picture on the screen. Because these types of programs read IFF format pictures you do not even have to be an artist to get good results — there is a vast library of public domain artwork available. Draw out or copy your graphic item, mark it out as a brush and then save it as an IFF file.

Whilst we are talking about IFF files and pictures, Grabbit (from Discovery Software) is another useful tool. It runs in the background and is activated by a selection of 'hot' keys. It is able to provide a 'snapshot' of another program's screen display writing the data to disk as an IFF file.

So, one way or the other it is easy to end up with a suitable IFF file and all that remains is to translate that file into real 'image' data. The pixel information within an IFF chunk is usually compressed and the bitplane data is always interleaved. Image data, as required by an Intuition Image structure, on the other hand needs the bitplane data available as distinct planes. In the early Amiga days most of us wrote our own Brush-to-Image converter programs but nowadays there are plenty of public domain C/assembler utilities available. As far as commercial offerings go Power Windows, the package we talked about in the first part of the series, is one of the best. Power Windows (version 2.5) will read an IFF brush straight into a gadget and in doing so will read an IFF brush straight into a gadget and in doing so will automatically generate both the image structure and, more importantly, the image data. The image data that Power Windows produces can be incorporated directly into your source code.

By using the ram disk as a temporary storage area the complete process of designing the graphic, saving as a brush, reading into Power Windows, generating the Image data and finally including in the program source before recompiling, can take as little as 5-10 minutes. On a 1 meg system you can even have DPaint and PowerWindows running simultaneously (see figure 1).

Don't forget that image data (not the Image structure itself) needs to placed in chip memory, i.e. the lower 512K. ATOM based solutions (i.e. running your code throught the ATOM utility to force blocks of code to be designated for loading into chip memory) are still used occasionally but compilers like Lattice now support a chip keyboard. Why am I telling you all this? Most of the public domain conversion programs you will come across were written when the ATOM utility was the only solution, so if they are producing C code data it will almost certainly take this form ...

```
USHORT ImageData []={
0x0000, 0x0000, 0x0000, 0x0000,
0x0000, 0x0000, 0x0000, 0x0000,
0x0000, 0x0000, 0x0000, 0x0000,
0x0000, 0x0000, 0x0000, 0x0000,
0x0000, 0x0000, 0x0000, 0x0000,
0x0000, 0x0000, 0x0000.... etc.
                              }
```

You'll therefore have to add the chip keyword yourself, i.e. use a text editor to change the data heading to ...

```
USHORT chip ImageData[]={
0x0000, 0x0000, 0x0000, 0x0000,
0x0000, 0x0000, 0x0000, 0x0000,
0x0000, 0x0000, 0x0000, 0x0000,
0x0000, 0x0000, 0x0000, 0x0000,
0x0000. 0x0000. 0x0000. 0x0000.
```

P.A.O.

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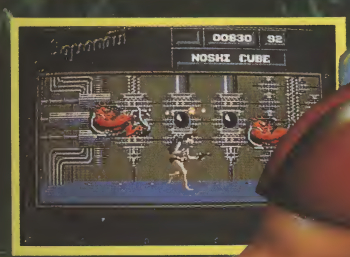
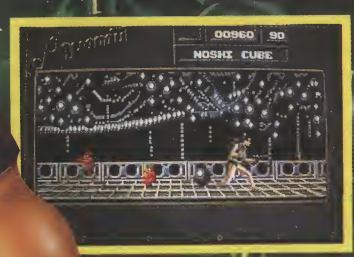


Screen shots from various systems.



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Making shapes move around a computer screen is one of the simplest forms of animation available. Rotating a cube or spinning a sphere has been made simple by an abundance of Amiga programs.

If you want to emulate a 3D world as well, more specialist programs exist, allowing some startling impressions of depth to be achieved.

But when such software is called on to mimic life, the first obstacle is frequently impassable. To duplicate the movement of a living thing requires more than the current software, outstanding as it might be.

The skills of human artist are needed to convey the complex articulation of joints, to show muscles moving under skin, tension and relaxation. In fact, a job only a gifted artist could hope to undertake. But now, thanks to an innovative software concept, real life is available on the monitor screen.

RealThings is the title of a projected series of animation disks from Robin Bilson, whose first release is 'Horses'. Robin is a great enthusiast who has managed to pass on to computer artists the delicate and superb artwork needed to capture each nuance of the animal's movement.

Using digitising techniques has meant it has been possible to retain the verve and naturalism of the original line studies created by the late Cecil Trew.

Watching the animations is like seeing a sketch come to life and gallop off the page. It is exhilarating, and what's more is the biggest time-saver any artist could hope for.

Moving clip-art is a novel idea, and it is anticipated this first disk will be only the start, with people and creatures in the pipeline. Included on the disk are an assortment of drawings to be used within DeluxePaint III.

These take the form of various simplistic backgrounds, oddments of scenery and the meat of the program - anim brushes. Loading these into DPIII is only the beginning for what promises to be a rich and rewarding experience.

By using the powerful animation facilities of the art package - things such as perspective and movement - it is possible to quickly create some individual customisations on the anim-brushes, which often breath movement and life across the screen in just half a dozen frames.

At least 1 meg of RAM is required to get things off the ground, and clearly a good working knowledge of DeluxePaintIII's advanced features is a necessity.

The documentation which accompanies the disk is worthy rather than clear, but it goes a great way in explaining the art packages shortcuts and ways of achieving effects. A helpful folio-sheet gives details of the disk's contents and permission is granted to copy this for school use.

For as well as allowing home users the chance to use anatomically correct animations, the project could also find a niche in education, where studies of movement would benefit from examples which actually did move! Indeed, the manual describes various exercises which are quite scholarly.

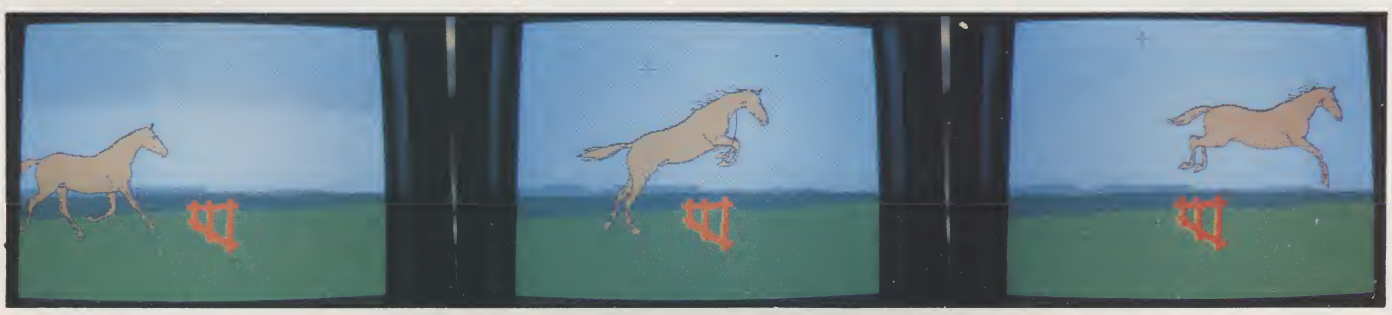
An unusual and fascinating inclusion in the documentation is a Cecil Trew drawing showing a comparison of the bone structure of a human and horse. If, like me, you are a little cynical about the benefits of a disk full of moving horses, then you may mellow; obviously you may have to contrive some scenario for adding a cantering, galloping or trotting horse into your animation. But the disk is really unlocking a door which was previously closed. I was surprised at the potential the subject offered for experimentation and entertainment.

With the addition of a small number of human riders on disk, it is a simple job to customise them to your own needs; one chap could be a lancer, and the same original drawing could be edited to be an American Indian.

The disk is the gateway to some stimulating work; the scenery is minimal, so a starting point would be the creation of some deluxe backgrounds, with DPIII allowing it to scroll as the horse and rider moves. By adding moving foreground objects, layer by layer a parallax scroll can be built up to whatever degree of complexity you require.

Using the perspective option while a horse is running gives a true sense of depth to a scene, though as the work is in low resolution you may have to touch up the smaller renderings, where detail may get lost.

All graphics share the same screen resolution, so freedom to mix one scene with another is well catered for, and the animations come in varying sizes (though DPIII will allow you to re-size images to fit your needs). Some of the images have been saved in 64-colour halfbrite mode, where for an extra outlay in terms of memory, you can double your choice of colour. The animation brushen themselves use a minimum of



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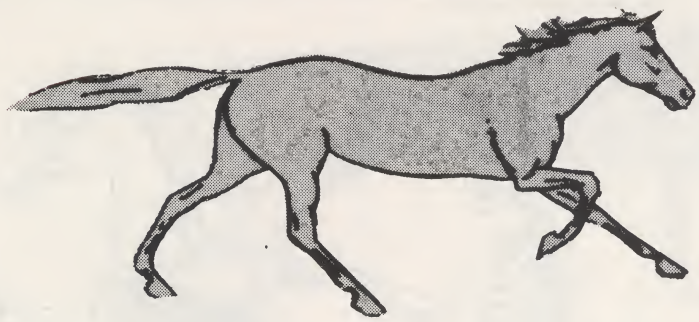

Then meet Artie. If you can turn this page into an Amiga, you can hit key 4 and he'll come alive before your very eyes.

Not *that* good ? Never mind.

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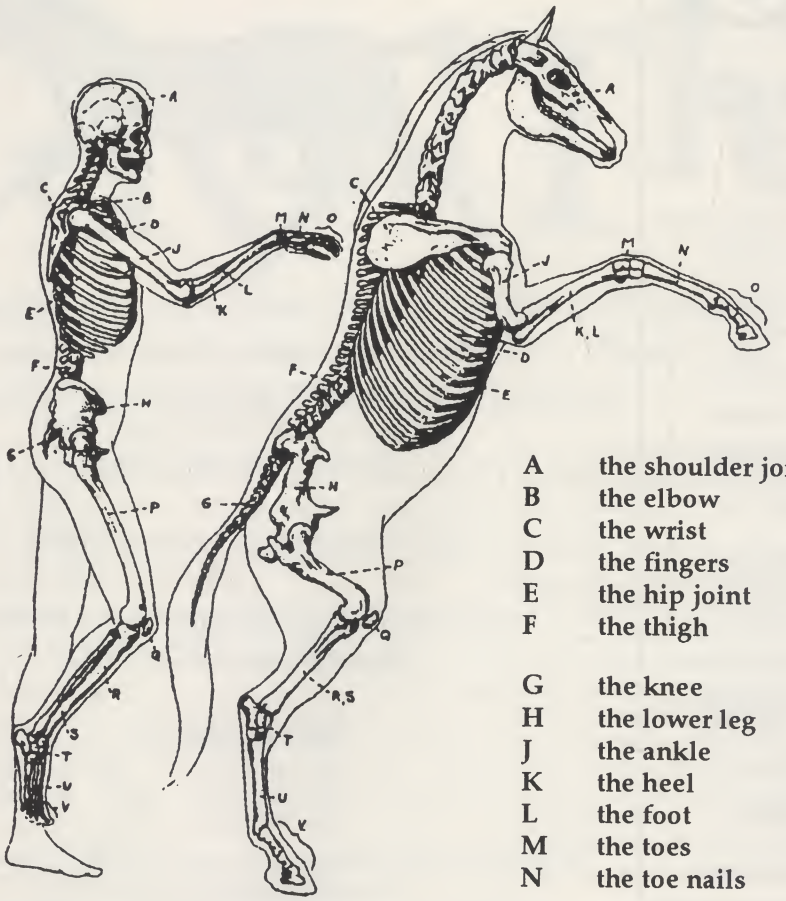

A	the shoulder joint
B	the elbow
C	the wrist
D	the fingers
E	the hip joint
F	the thigh
G	the knee
H	the lower leg
J	the ankle
K	the heel
L	the foot
M	the toes
N	the toe nails

colour - these are not full-colour shaded equines, merely artistic interpretations to highlight movement rather than realistic outward appearance.

CONCLUSION

At under £25 this package is a DeluxePaintIII animator's dream. Although it contains graphics for just one subject, I was surprised how stimulating the animation of a horse was to the creation of unusual and life-like sequences. In an hour I had turned the horse into a banner-carrying centaur marching across a mythological landscape.

RealThings allows for discovery and experimentation, which is where the real enjoyment comes in. A fine product for both home and education use, using exceptional sketches, it offers a unique chance to undertake some very rewarding work. If the projected series takes off, it will be a library of movement fit to grace any artist's stock.

Finally I have to reiterate that the true benefit of this product will be enjoyed only if you are familiar with the intricacies of DPIII's animation - flipping, resizing, brush movements and so on. If you have not mastered these yet, then RealThings could well be the spur to get you going !

P.L.

Contact: Digipro Ltd., Southampton (0703) 703030

At last! We can announce the winners in AUI's DI/Sonmax joystick competition. The lucky people listed below are now proud owners of Handsome Horgan's favourite tool! So... look at our list and check to see if you qualified.

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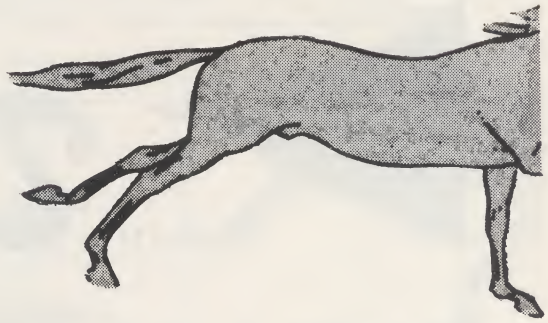

So you've done it, have you ?

Ve..ry clev..er ! Fact is, Artie's just fed up waiting. So to see a lot more of him and his friends you'll just have to get RealThings - HORSES.

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1. The soundtracks of Xenon II, Blood Money and Shadow Of The Beast are amongst the best to be heard on the Amiga. Who was the one man responsible for all three?

a) Rob Hubbard
b) Tim Follin
c) David Whittaker

2. The Seeds Of Love is the current get-down-boogie-but-quite-mellow-in-parts album from Tears For Fears. What was the name of their previous album?

a) Chas and Dave's Knees-up
b) Brothers In Arms
c) Songs From The Big Chair

3. In his review of the Soundblaster, does Bob Collyer say "I found the best idea was to put the speakers close to the monitor."?

Answers on a postcard by March 15, 1990 to:

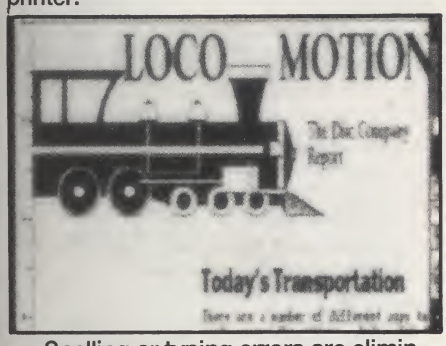
Soundblaster Competition,
Amiga User International,
40 Bowling Green Lane,
LONDON EC1R 0NE.

Home Office Kit

The Home Office Kit is supplied in a large box and contains TEN DISKS. These include Kind Words 2.0 (wordprocessing), Info File (database), Maxi Plan (spreadsheet), plus Page Setter, an excellent DTP package. Rather than offering a full review of each of the programs, the following is a brief resume of each.

Kind Words

Kind Words 2.0 is one of the most popular Wordprocessors available on the Amiga today. Not only does it incorporate all of the features found on any top-line WP, but also those more in common with DTP systsmes. Colour traphics can be imported into any document and a selection of different fonts used for added impact. Kind Words 2.0 is supplied on three of the ten disks, one of these contains "Superfonts" which, when used, can give almost typewriter quality on a standard, 9-pin dot-matrix printer!



Spelling or typing errors are eliminated using the Dictionary disk, which contains no less than 100,000 Ehnglish words. Should you ever find yourself lost for words, then the 47,000 word english Thesaurus should be able to help you!

Using Kind Words 2.0 is very simple, all the functions are available from either mouse-selectable, drop-down menus, or by using a combination of keyboard shortcuts. There are nearly 90 different functions available, which control everything from simply scolling through pages of text, to organising full-blown Mail-Shots, to checking your spelling or reading the Thesaurus.

Info File

The Info File Database is possibly one of the easiest to use Databases that I have ever come across in a long time. Unlike many other programs of this type, Info File is very simple to learn and operate but incorporates some very powerful and sophisticated data management features.

In essence, you define column and rows, to represent data fields and individual files, i.e. a column could represent a list of names, whilst each row might contain name, addresss, telephone number etc..

Info File does not just limit you to just storing textual information though, graphics and sounds may also be arranged into records. Should you have a list of elephone numbers stored in a record, Info File can dial them for you (Tone Dialling Only).

Another very useful feature is the ability to define calculations. For example, if one column of your database contained the number if miles you had driven for a given journey and another, the gallons of petrol used for the journey, a third column could be defined to calculate and show the number of miles per gallon. This is obviously a very simple example, in fact, quite complex calculations that would normally be found in a spreadsheet, can be performed.

When all your data has been entered, it can be sorted, searched and manipulated in a huge variety of ways, to obtain the information that you require. As with Kind Words, all of the functions are available through menu selections, with many of them also having keyboard shortcuts. Once again, the functions provided cater for just about every conceivable requirement.

Info File is supplied on two disks, a program disk and a disk marked "Templates". This second disk containes ten, ready-to-use databases that you might fund useful. They include an Address File, a Chequebook, an Inventory and Library-Book records.

Maxi Plan

Maxi Plan is an award winning Spreadsheet program. having taken 1988 "CCI Oskar" for the "Best Spreadsheet", a very worthy winner. This feature packed program offers the user almost total flexibility in terms of data entry and figure manipulation. The functions of the program takeinto account such diverse options as being able to define which colour of font style a particular cell might display, according to its contents, or to treat a range of cells as a

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Database. Like Info File, the rows are treated as records and the columns as fields and the data can be manilpulated in much the same way. Memory permitting, up to 63 Databases can be defined per worksheet. A selection of menu and keyboard otions offer in excess of 120 different commands, that may be used to define, sort and display your data in a variety of different ways. Data can even be output as a text file, for importing into another program, like a wordprocessor.

A huge array of built-in Functions are made up of nine different types: Statistical, Financial, Logical, Mathematical, Database, Trogonometric, Index (performs calculations on referred to cells.), Date and Special (colour, style etc.). Reading thrught the list, I could not think of anything that I would have added, indeed there are a number of functions included that I have not seen in any other Spreadsheet. Let me give you an example.

Anyone who has ever used a Spreadsheet will know of the problem created when using a large sheet, it is not possible to view all of the sheet all of the time. Murphy's Law of Spreadsheets says that when you are entering data into one part of a Spreadsheet, the outcome of any calculations performed is always displayed in a cell that is offscreen! This entails much shuffling about the Spreadsheet to see the results. Howevere, with Maxi Plan, you can use the functions "Say" to actually tell you the outcome! A series of cells could have a selection of text strings written to them, for use as sentences, spoken only if certain criteria are met. Imagine a Spreadsheet that keeps track of your Bank account actually telling you when you are overdrawn!!

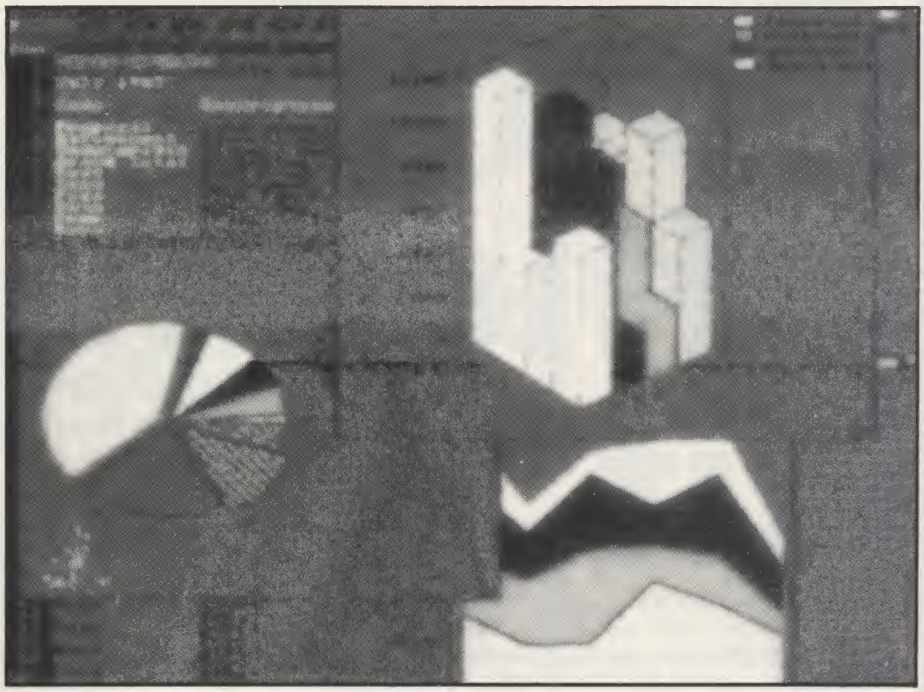
On a more serious level, Maxi Plan is more than capabvle of dealing with anything required of it in either home or small business useage.

Page Setter

Finally, we come to Page Setter. The manual states: "Combining power and flexibility, Page Setter is a revolutionary software tool designed to give you complete control over page layout and design. Page Setter takes full advantage over the Amiga's capabilities to offer you the state of the art in computerised typesetiing, while the sophisticated "intuitive" user interface is fast and easy to learn and use."

Having been a Page Setter user for some months now, I can only agree with that statement. Page Setter is a first class piece of software that allows you to design and create your own flyers, newletters, posters, or even small magazines.

Used at its simplest level, you define a page size, create a boppx on the page and fill the box with text that is either written with the built-in Text Editor, or



imported from a Wordprocessor. At the other end of the scale, graphics, fonts, and special effects can be used to create a very impressive piece of work.

By using a mix of menus and icons, Page Setter is very, very simple to use, with most of the options being self-explanatory. The screen display is well laid out and may be magnified when precision work is required. All of the options are mouse selectable with keyboard entry only required when entering text.

Page Setter contains both a Text and Graphic Editor and, whilst the TExt Editor is not a full blown WP and the Graphic Editor is not an all-singiong, all-dancing Art program, both are adequate for the function they have to fulfil. The Text Editor is able to accept files from just about any WP program, in fact files from Scribble! and Textcraft that include "font style" commands will retain those commands in Page Setter and displayed as written. It is perfectly acceptable to insert Page Setter commands into text written on your WP, they will be recognised when the file is loaded.

When text has been entered into a box on the page that you are working on, the font can be changed. Supplied with Page Setter, one of the supplemntary disks contains a large selection of different fonts that can be loaded into individual boxes. It is possible, allowing for memory limitations, to have twenty different pieces of text, in twenty different fonts, on one page!

The Graphics Editor allows you to create your own "Clip Art" for inclusion into your documents. As the image will eventually be printed on a black and white printer, the Graphics Editor also operates in B&W only, at a resolution of 640 x 200 pixels. Graphics of the same resolution, from other Art packages, can be loaded into the Editor for inclusion into documents. Any colour will automatically be converted into a grey-scale by the program, as it loads.

Page Setter is supplied on four disks; The Program Disk, Font Disk, Artists' Choice (with over 200 pieces of professionally drawn clip-art) and Laserscript. The last of these is a utility program, that allows you to manipulate previously create pages using "Postscript", a language used by professional layout and page design artists.

Well, that is a (very) brief overview of what can be found inside "The Home Office Kit". As I said at the beginning, each of the programs deserve full reviews in their own right (or have had them), all of them are among the best in their class. Kind Words is a super Wordprocessor (this review was written using it), Info File looks set to be a Database of remarkable capabilities, Maxi Plan has a proven track record of success and Page Setter is the perfect amateur DTP package. When put together in one box, the result is a package which every new Amiga use should invest.

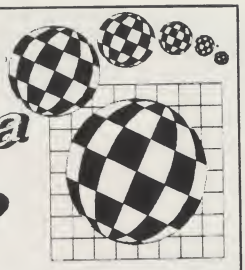
The currently advertised cost of "Te Home Office Kit" is £149.95p, which obviously is quite a sum of money to spend on one purchase. Bought individually, though, they would cost you considerably more.

News has also reached me of a forthcoming offer from Commodore, that will bundle The Home Office Kit, along with a copy of your favourite Amiga magazine, ***AUI***, with the Amiga 500, at a price that will be ery reasonable indeed.

For my money, it is a sure-fire winner that offers the user the best of everything. Very highly recommended!!

N.S.

? ? Do you get the best out of your Amiga ? ? ?



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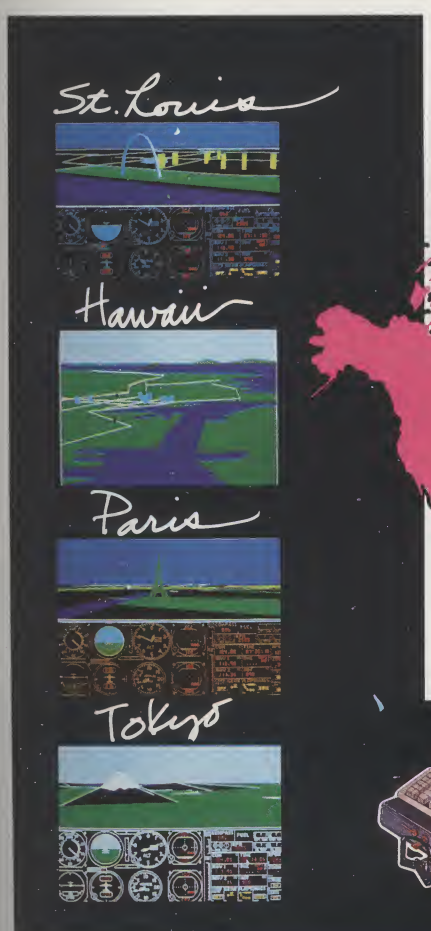

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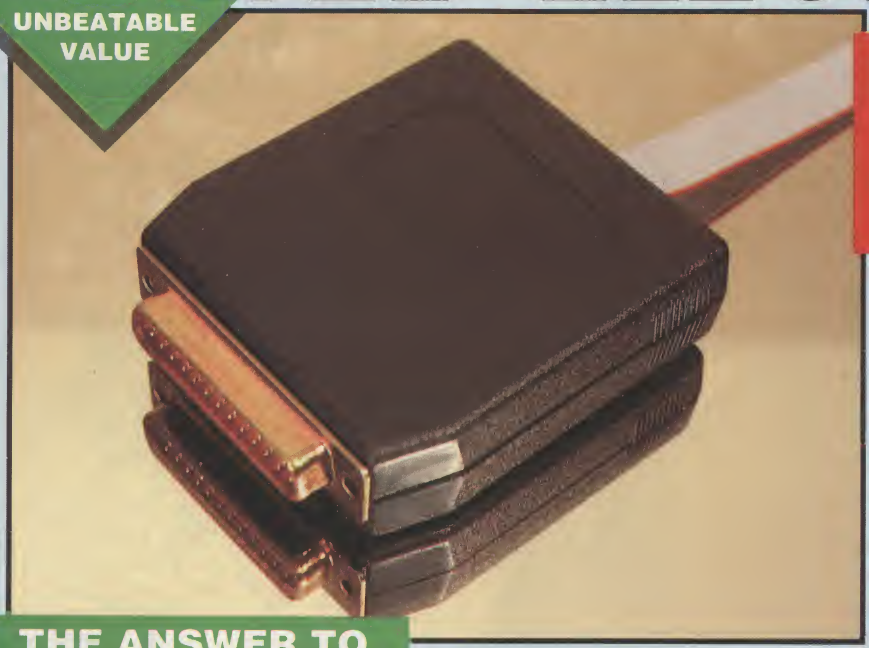

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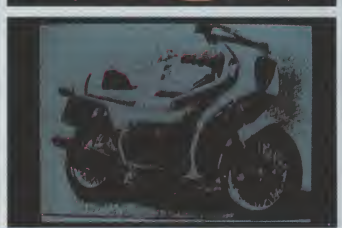

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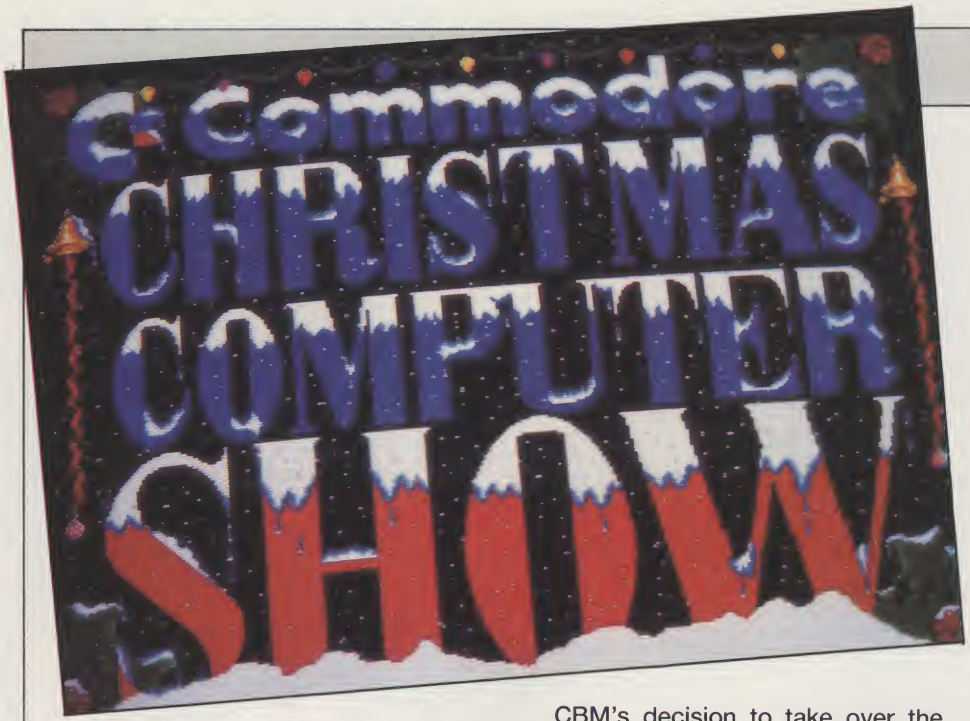

"When we do a Show, it's got to be fun!" said Steve Franklin, Commodore's UK Managing Director. And, at last, it was.

Whether the fun atmosphere was created by the huge Disneyland characters wandering through the packed halls accosting delighted children or the fancy dress contest (won by Ocean's Paul Patterson and Colin Stokes who dumped their usual outrageous Nazi uniforms to bring on the clowns); or the hot music blaring from the back of the Commodore Stand or even the opening by top Capital Radio DJ David Jensen, there was a certainly a different feeling from recent "cheap as possible, even if it's nasty" Shows.

CBM's decision to take over the organising of the last Commodore Show of the decade themselves certainly seemed to have paid off in enjoyment for the crowds. Even the look of the Show was neater and classier than Shows of recent years, though there were, as usual, still many Stands simply devoted to-unloading, piling it high and selling cheap bargain software and hardware, including almost down to £300 Amiga 500s.

While CBM mounted the show largely with its own resources and the help of experienced Showman Peter Bramald, last minute problems with the previous organisers meant that we were asked to create the Official Show Guide - a task that was familiar to us from past years.

For the visitors, long queues forming on Saturday and Sunday, it was a genuine Christmas Show with even a Santa 's Grotto and a Santa Claus who denied he was the father of David Pleasance, CBM's Director of Retail Products, whom distributors and retailers throughout the country believe, we are told, really is Santa Claus and have photographic evidence to prove it.

Not all was in the "What's my present, Dad?" vein and there was through the three days a drive to raise money for the "Help a London Child" charity campaign. And there was a balloon race with the winner getting an Amiga 500.

All these lively events certainly added to the fun of the Show but there was also much more that made the journey through to traffic-jammed west London well worthwhile. CBM had been much more persuasive in convincing long-absent leading software companies to renew their relationship directly with the Commodore faithful. Top names such as Ocean, Electronic Arts, Mirrorsoft, Mindscape, Domark and Microdeal had substantial Stands at which their latest - in some cases previously unreleased - software was on display and sale. They were joined by the ever-loyal Anco and a face missing for some time from the Commodore world, erstwhile CCI columnist, Llamasoft's Jeff Minter.

But it was a Christmas Show, though a month ahead of time, so many of the visitors were there to buy gifts for themselves and others, and bargains abounded. There was even one Stand actually called Bargain Software.

Multimedia

C64 entertainment and even serious software was being offered at knock-down prices. You could pick up full-price games only a few months old down from £14.99 or £9.99 to £2 or £3, or, if you had programming in mind the classic 1st Publishing 64 Assembler for just £1 on the Multimedia Stand.

Multimedia? Not a name known to many yet in the computer field but likely to become well-recognised, though not for selling very cheap assemblers. Multimedia is a new distribution company formed by the leading lights of the recently-closed major Commodore and software distributor, Microdealer. Lee Ginty and Craig Saddington, Microdealer's previous directors, have separated themselves from the Maxwell

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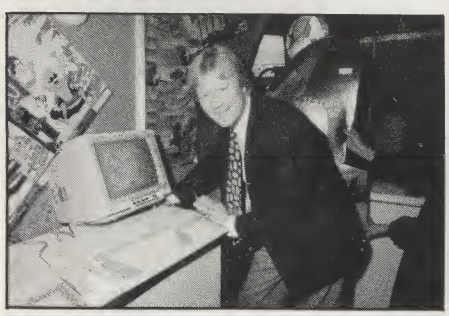
organisation and set up Multimedia and with their past record may well be challenging the UK's top entertainment software distributors, Centresoft and Leisuresoft, for a high place in the market. They launched their company at the Show just six weeks after putting their deal together.

There were many other more familiar names there too - and some rather unusual ones. Hamley's, the famous toyshop had a presence as did the Pepsi Challenge. And there was even Encylopaedia Brittanica trying to import a little education and culture to the shoot 'em up brigade.

Amiga Section

As usual, the Show was on two floors of the Novotel Hotel. A large part of the upper floor was dedicated to the Amiga. It was a quieter, obviously more serious section. Well, not always quieter... Emerging from a cavernous, strobe-lit annexe to Commodore's own Stand came the magnetic sounds of pop, rock and roll and all that jazz... Two or three intently-skilled musicians seemed to be concentrating on a mass of electronic equipment with world famous musical names like Roland emblazened on it. The music was to top professional level and it was all, as could be seen amidst the masses boxes and cables, controlled by a single Amiga 500 and a CBM 590 hard drive.

Andrew Bishop, CCI's own electronic music buff, was often to be seen loitering nearby with a transfixed expression as if he had reached nirvana at last. (Or could that have been the result of hearing CCI"s Billy Brown take a hand at the drums?). Music is beginning to play a leading role with the Amiga and Yamaha too brough some popular instruments to the Show, including keyboards as cheap as £69.00.



World First...

Bytes and Pieces, the well-known retailer, caused quite a sensation with their claimed "world first" 8 meg board that fits all Amigas and their brand-new, exciting AX-S expansion system.

Marcon had the Rendale Genlock that lets you record animation or graphics on a VCR. And graphics were also to the fore in the product with which Jeff Minter made his reappearance into the CBM field. His Trip-a-Tron light synthesiser gives spectacular iridiscent displays and has its own 120 command programming language. It was launched for the Amiga at the Show.

Bath Computer Shack had on offer a cordless mouse. Softstuff were providing a new range of educational software, as was MST Maverick Software. Frontier Software was previewing its new expandable printer buffer and Memory Expansions had (surprise, surprise!) upgrades in many forms for all Amiga memories.

THRONGING CROWDS AT THE NOVATEL!

Trilogic, always inventive, have come up with a mouse/joystick monitor sharer which lets one monitor or TV be used by two computer, or a computer and a VCR. Silica Shop, which declares itself to be the UK's No1 Amiga specialist retailer had a large and very well-stocked Stand.

Something For Everyone

If you had problems, you could recur to the expert help and advice of ICPUG for all Commodore machines. ICPUG is the largest and, they warmly tell us, "most friendly" computer club in the country. For Amiga only followers, there was also the UK Amiga Users Club and even the C16 got a mention with games from Software Selection and at just £1 from Anco.

There was, it seemed, as we try to achieve with CCI, something for everyone. Commodore themselves, now into their stride with big sales for the C64 ("We've shifted 150, 000 in 6 weeks!", one of the software houses that has a product bundled with CBM's 64 Light Fantastic pack told us wonderingly) and also with the Amiga. Their PCs are taking an ever stronger role in the market too. So Commodore had a right to look pleased with itself and are probably going to be able to fulfill Steve Franklin's promise at the recent PC Show of "taking the UK home market this Christmas!".

With software companies of renown like Ocean, Electronic Arts, Mirrorsoft and Mindscape adding a touch of upmarket style, with the slashed prices of the "traders" in both hardware and software and even peripherals more than paying for the entrance (Pete Connor, Editor of our 16 Bit publication The Directory looked saddened at having paid a mere £2.99 for a mouse. Why, when he told us that they cost £9 at a recent Mac User Show? Because he found another mouse mat later at just £1.99!); with Commodore putting on the show biz glitz with Santa Claus and Disney characters strolling the place, the Show reflected the revived optimism that is present in the Commodore world. For the last few years, the Commodore Show has looked a little bedraggled and down-at- heel. Times felt hard and the Show mirrored the feeling but now they may be a-changing. There is a far more confident air about Commodore and everyone involved with it and. as we all know, nothing succeeds like... well, an idea, or a computer company, whose time has come.

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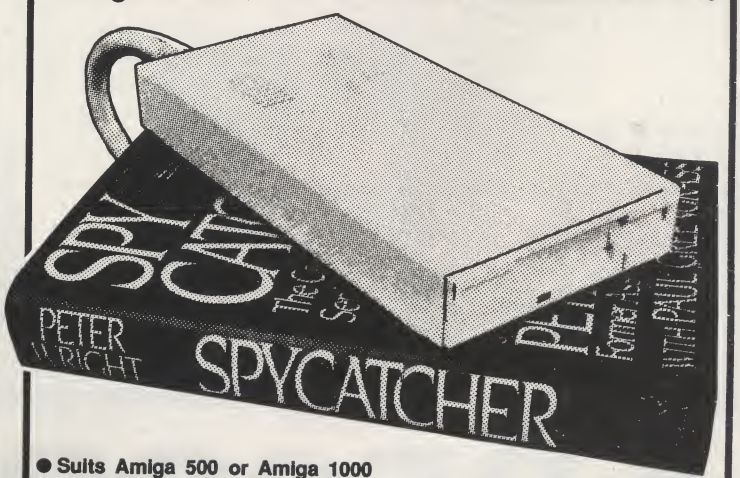

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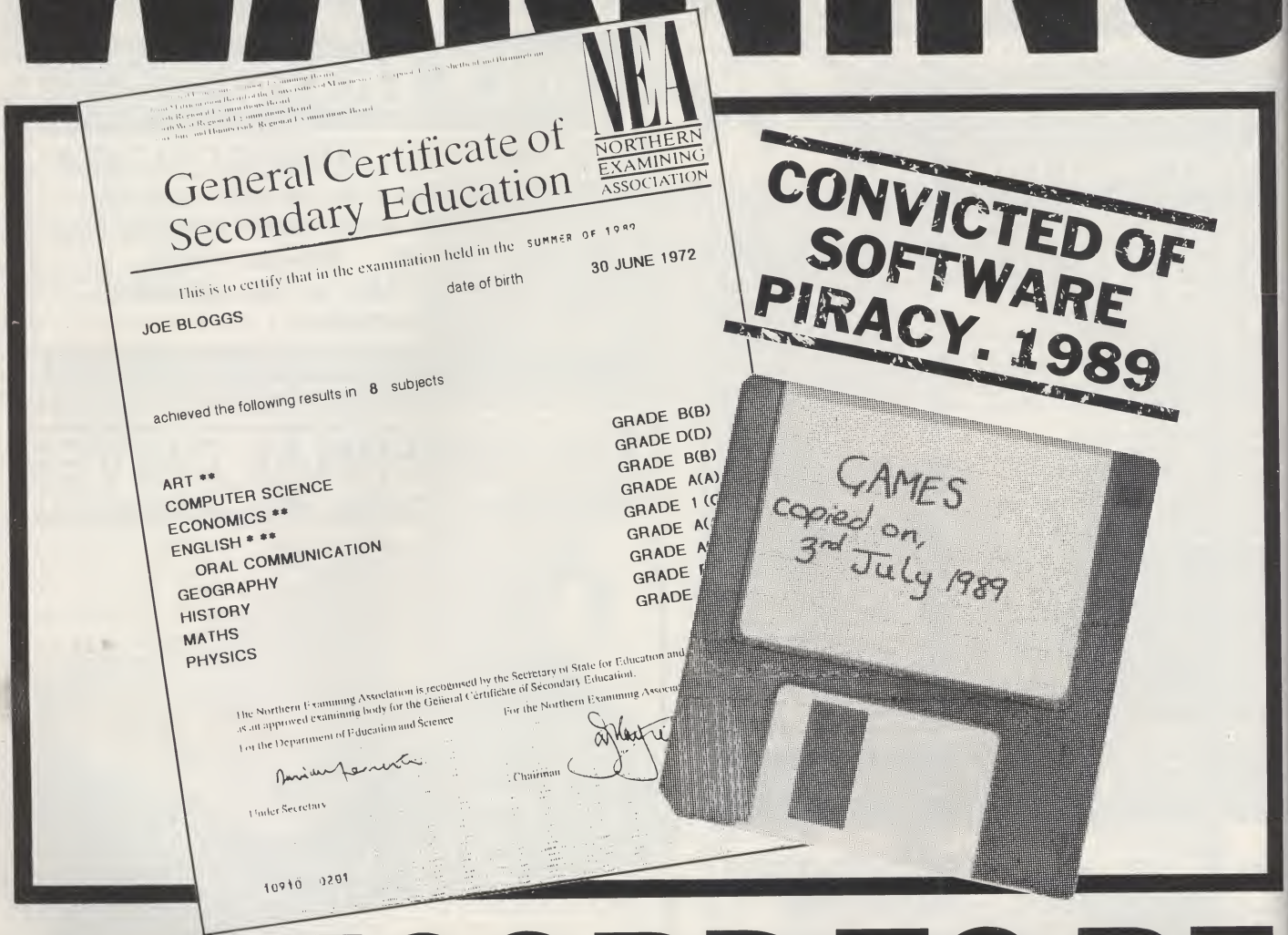

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Powe

Activision

Sega seem to have almost got to the point where they have such powerful hardware, they don't know what to do with it! Take Power Drift for example.

Most 3D race games use roads drawn with mathematically calculated curves for speed, but Power Drift does it the hard way, constructing its tracks from hundreds of 3D sprites, which speed into the foreground at an amazing rate. On top of that, the whole screen is rotated for extra effect during cornering! Anyone who's ever tried programming fast-moving graphics will appreciate the immense computing power that's needed to achieve such feats. Fortunately for Activision and Joe Public, there's also a great game in there too, so even though the Amiga can't match the coin-op in technical merit, a decent slice of gameplay is not too much to

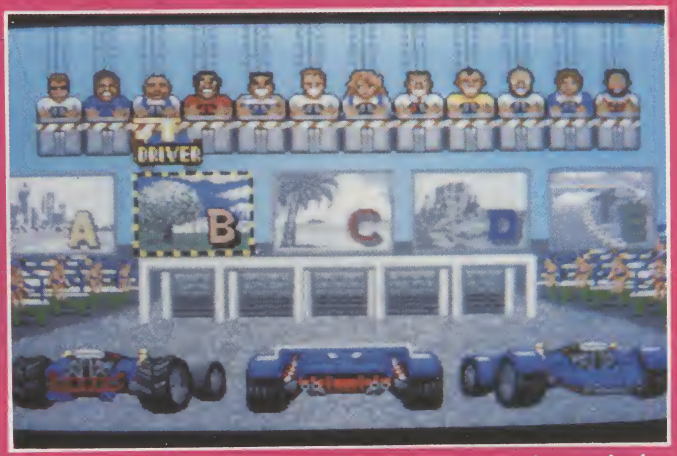
"The less complicated circuits are fine in general, but it's when a tight left-hander follows a right, coinciding with a mass of billboards, that things get out of hand."

r Drift

hope for.

Although the strangely named programmer ZZKJ is easily the best in his field, I had expected some compromises to be made in the Amiga version. Surprisingly, the "real-world" construction of the tracks has been retained. The spiraralling panning of the camera which introduces each track is also present, if a little less effective than that of the coin-op. As in the original, the road is made up of logs and concrete slabs. At slow speeds they approach smoothly, but when things get busy, it can be impossible to see what's going on. The less complicated circuits are fine in general, but it's when a tight left-hander follows a right, coinciding with a mass of billboards, that things get out of hand. The car tends to steer itself round the bends to some extent, which is probably the reason why you can career around a track not knowing where you're going, and still manage to qualify. Perhaps a few compromises wouldn't have been such a bad idea after all.

Power Drift differs from the rest of the 3D race coin-ops. You don't race along a road towards a goal, but hack around short tracks with a bunch of opposing drivers. The tracks are severly contorted in all directions. Much of the time, you'll be fighting with the wheel of your buggy on hairpin bends raised fifty feet off the ground. If you're lucky, there'll be a row of small bollards to keep you on course; if not, you could soon find yourself falling to earth with not even a roll bar to save your neck. Not to worry though, should you wipe out at height, you'll be granted a new body and buggy in seconds. To qualify for the next race, you need to finish in first, second or third place.



Where the Amiga can match the coin-op is in presentation. You can choose to control any of twelve drivers, in one of three cars, over a selected five tracks from a total of twenty five. Almost infinite variety you may think, but the choice of driver and vehicle has no bearing on the gameplay. All the graphics have been redrawn from the coin-op very accurately. The cartoon style and bright colours give it all a very jovial look. The music isn't up to much, but all the speech has been re-sampled, so along with an indicator in the status area, you also get an enthusiastic commentator yelling out the number of laps you have to go.

Unlike Super Hang On (also programmed by ZZKJ), which lets you race across one of four increasingly difficult and lengthy courses, Power Drift has its four sets of tracks set to the same difficulty level. Even without the use of the "continue play" option, completing all five in each set is easily done; most experienced gamers will have seen them all within the first few hours of play. Once you've played it to the end, there's very little incentive for future games. All the same, congratulations must go to the programmer. Had this level of programming been applied to a less adventurous project, such as Chase HQ, I'm sure the results would have been stunning. I'm afraid optimistic Power Drift fans are in for a slight disappointment. However, do playtest it if you get the opportunity, you may be pleasantly surprised.

T.H.

Graphics: 8 Sound: 7 Playability: 7
ABSOLUTE VALUE: 7 Price: £24.95

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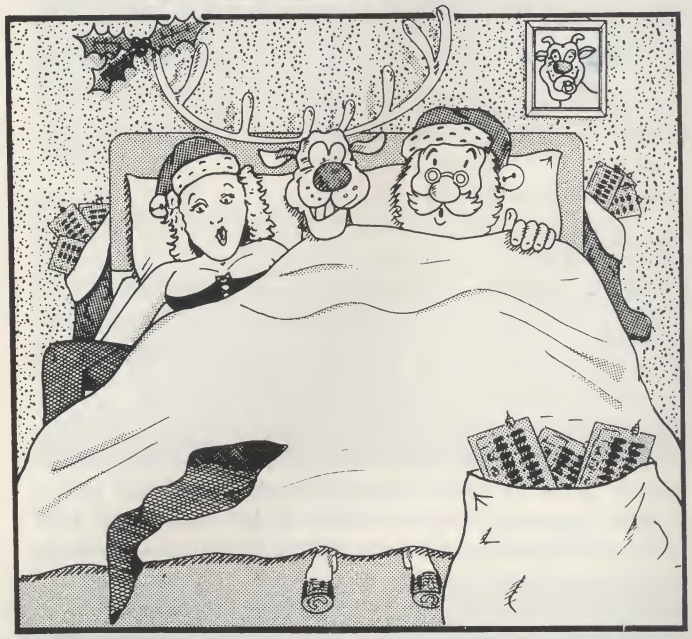

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Cream of the Crop

Tony Horgan leafs through his games diary to recall the cream of the Amiga crop for newcomers to the Amiga games playing scene

So you managed to convince your bank manager that you needed to buy your new Amiga for business purposes, but inside, you know it was the promise of wasting thousands of aliens, discovering new worlds, and beating the lap record at Silverstone that attracted you to the machine. Of course you want to get your games collection off to a good start, and to help you do just that, here's the exclusive and authoratative AUI guide to the cream of the cream of existing Amiga games.

Sport Simulations

Kick Off

Without a doubt, Anco's Kick Off stands head and shoulders above the competition. As its name implies, it's a football game. The view is from directly above, with the pitch scrolling extremely smoothly in all directions across a PAL screen. One of the game's many unique features is the accurate scaling of players to pitch. It may not look spectacular in still shots, but the small players and sprawling pitch allow a great deal of variety in the build-ups and shots, making for a far less predictable game than usual. Players have full control when it comes to tackling, so it's up to you whether you bring down a player or make a clean challenge. Together with the numerous other features and options, Kick Off is a strong contender for the best arcade game written for the Amiga; it's definitely one of the most popular. You can now also buy an expansion disk for the gam, called Extra Time, which adds yet more tweakable parameters and enhancements. Check out the review in this iss
ue for more details.

"Kick Off is a strong contender for the best arcade game written for the Amiga"

The Games: Summer Edition

"Summer Edition continues in the popular style"

Anyone who's upgraded from an 8-bit machine will be familiar with the Games series from Epyx. Summer Edition continues in the popular style, allowing up to eight players to compete in all or any of eight summer olympic events. There's little innovation in graphics, sound or gameplay, but it's a great laugh with a bunch of mates.

World Class Leaderboard

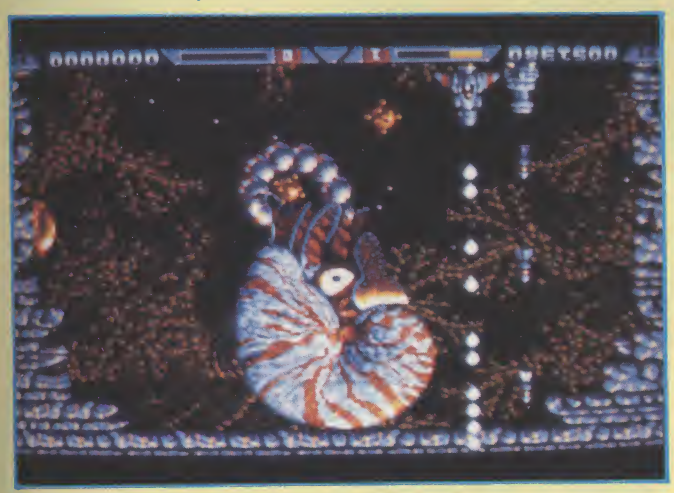
The thought of a golf simulation may not fill you with excitement, but like The Games: Summer Edition, WC Leaderboard comes into its own with the multi-player feature. Three skill levels assure that the most incompetent computer gamer can get around the four courses in a reasonable score, whilst a reputable score on the professional level is a real

achievement. A superb game that you'll be playing for months, even years to come.

Shoot 'em up

Xenon II

From the publicity-hungry Bitmap Brothers, Xenon II is one classy shoot 'em up. It's a traditional vertical scroller, with set patterns for the alien attacks, and plenty of extra weapons to ease the burden. Nothing new there, but it's the execution that makes the game. It all kicks off with a housey title track from Bomb The Bass, and proceeds to astound in similar

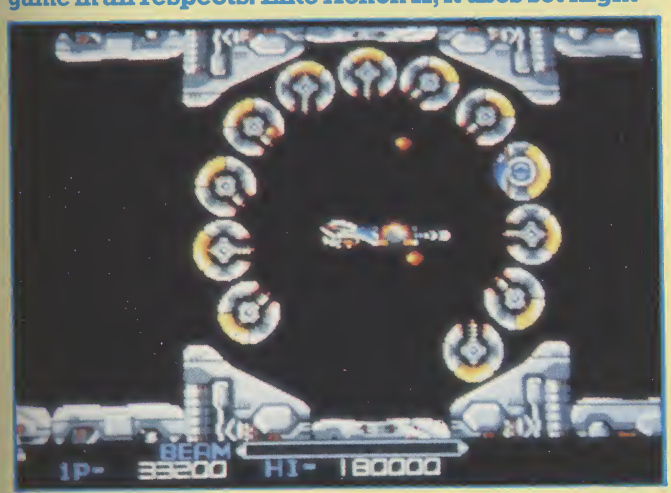


"Xenon II is one classy shoot 'em up."

fashion with its graphics. The level guardians are massive, and mean with it. Xenon II is a very difficult game, which could prove just too hard for a beginner, but other than that, it's brilliant.

R-Type

Converted from the coin-op original, the Amiga version of R-Type comes very close to the arcade game in all respects. Like Xenon II, it uses set flight-



"R-Type comes very close to the arcade game in all respects."

paths for the aliens, giving some kind of order to the mayhem. Weapon upgrades are well up to scratch, as are the graphics. It gets overly difficult at the end of the third level, which does put a slight downer on things, but again, it's an excellent choice for anyone who likes their zappers tough.

Datastorm

Datastorm is more in the old style, with gameplay derived from Defender, and is one of the few games

"Datastorm is very fast and instantly playable."

with random attack waves. It's no great shakes in the graphics department, but Datastorm is very fast and instantly playable. One for anyone still fond of the old favourites.

3D Race Games

Super Hang On

Sega's speedy bike racing game was converted superbly to the Amiga by the programmer responsi-

"Super Hang On is both smooth and fast."

ble for Power Drift. With fewer objects on screen than Power Drift, and some classy programming, Super Hang On is both smooth and fast. Four varied routes take you around the world, through deserts,

"RVF is very fast"

continued on page 72

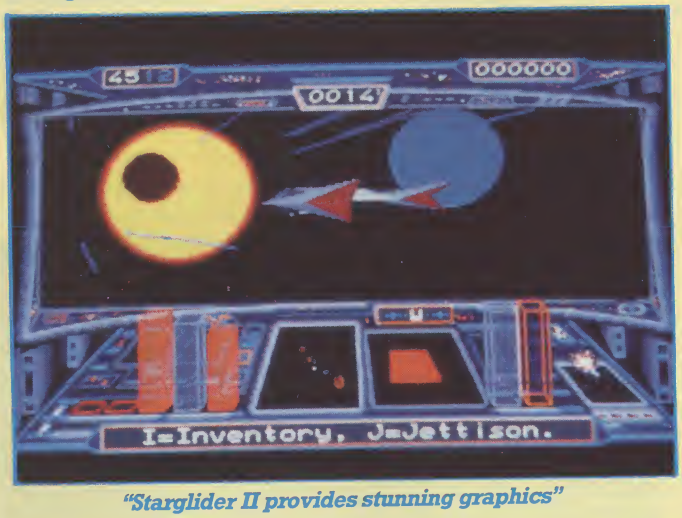
cities and grassy plains, as you hack along the undulating tracks. The graphics are extremely well drawn and animated, and the control response can be adjusted to suit the player. This is 3D racing at its best.

RVF Honda

RVF Honda takes a more simulatory approach to the 3D bike racing theme. Rather than speeding across continents and through checkpoints, you race around reconstructions of both imaginary and existing tracks. Expert use of your six speed gearbox is essential, as a spill could result in the malfunction of your speedo, rev counter, or even the gearbox itself. Despite its serious approach, RVF is very fast, catering well for the motor sport enthusiast.

3D Space Games

Starglider II



"Starglider II provides stunning graphics"

Not content with giving the player a whole planet to explore, Argonaut Software, programmers of Starglider II, have created an entire solar system! The smooth solid 3D graphics give you free range of all five planets and their moons. You're given the task of destroying a giant laser directed at your home planet, but if you're not feeling particularly heroic, there's nothing to stop you just flying around, discovering weird life-forms and raiding pirate ships. Starglider II provides stunning graphics, spooky sound, with a brilliant game to boot.

Mercenary

Alongside Starglider II, Mercenary looks less spectacular, with its transparent vectors and inanimate objects. However, the game itself is just as engrossing, if not more so. It's all set on the planet Targ. You crash landed your ship, and now have to find a way out. Two opposing races, the Mechanoids and the Palyars, are at war with each other. Using this to your advantage, you become a mercenary, carrying out tasks for either or both sides. Despite its dated graphics, Mercenary is one of the most atmospheric and absorbing games ever written. Damocles, the sequel, is due out any day now, which promises solid graphics and a far bigger game.

Think 'em ups

Populous

One of the most original games of '89, Electronic

"Populous casts you in the role of God."

Arts' Populous casts you in the role of God. Your world consists of just a small cluster of islands, and to make matters worse, the Devil has half of the population on his side! You have to pursuade your flock to go forth and multiply, eventually conquering the Devil's followers. By flattening the land, the young can be tempted to leave home and set up their own families. As well as altering the lie of the land, you also have a number of tricks up your sleeve. Natural disasters such as volcanic erruptions and floods can be invoked to keep the devil worshippers at bay, and the more followers you gain, the more powerful you become. It may not sound gripping, but sit yourself down with a copy, and you'll be hooked before the day is out.

Dungeon Master

You'll not often find impressive graphics combined with an in-depth role playing game, but the two mix superbly in Dungeon Master. Featuring a four-

"Dungeon Master delivers gameplay to satisfy the hardcore role player"

character team, loads of spells, monsters, weapons and puzzles, Dungeon Master delivers gameplay to satisfy the hardcore role player, without putting the Amiga into ZX81 emulation mode.

Indiana Jones and the Last Crusade

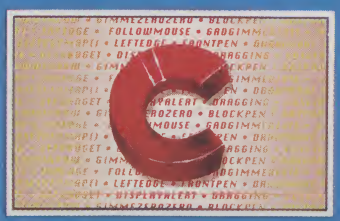
Not to be confused with the luke warm "arcade" game of the film, Indy uses Lucasfilm's mouse-driven graphic adventure system to great effect. Sentances are constructed from the available verbs

continued on page 78

New Titles for Amiga

Amiga C for Advanced Programmers

An advanced guide to programming the Amiga using the C language



Abacus
A Data Becker Book

Amiga C for Advanced Programmers –
contains a wealth of information from the pros: how compilers, assemblers and linkers work, designing and programming user friendly interfaces using Intuition, combining assembly language and C code together. Includes complete source code for a working text editor.
April 1989 about 380pp

Amiga Graphics Inside & Out

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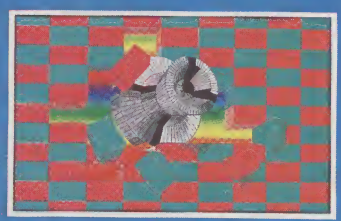

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an in depth treatment of the Amiga's super graphic features and functions. Learn how to access these graphic features from AmigaBASIC or C. Learn graphic programming in C with examples of points, lines, rectangles, polygons, colors and more. Contains a complete description of the Amiga graphic system – View, ViewPoint, RastPort, bitmaps, screens, and windows, more.
May 1989 about 450pp

AmigaDOS Inside & Out

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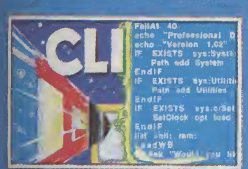

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AmigaDOS – Inside & Out –
covers AmigaDOS in depth so that you can use many of its advanced capabilities for practical applications. Includes complete reference section detailing all of the DOS commands, information on using the DOS editors – ED and EDIT, creating and using script files and taking advantage of the Amiga's multitasking features.
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Amiga Tricks & Tips

A valuable collection of software tools and programming hints

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here is a large collection of useful and important programming techniques that makes working with your Amiga friendlier and easier. Presents dozens of tips on accessing libraries from BASIC, making and using custom character sets, using AmigaDOS, important 68000 memory locations, and much more.

AmigaBASIC Inside and Out

A complete guide to learning and applying AmigaBASIC

Abacus
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AmigaBASIC – Inside & Out –
is THE definitive step-by-step guide to programming the Amiga in BASIC. Each BASIC command is fully described and detailed. Some of the topics covered include files and file handling, using pull-down menus, sensing the mouse, handling windows, drawing charts and using the speech commands. Techniques for advanced BASIC programmers.
554pp

Amiga C for Beginners

A Practical guide to learning and using C Language on your Amiga

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Amiga C for Beginners –
an introduction to learning the language of choice among Amiga programmers. Unlike other books, the examples here are specifically geared to the Amiga. Explains the language elements of this popular language so that you'll be able to use the C library routines, learn how the compiler works, more.
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A practical guide to learning 68000 assembler language on the Amiga

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Amiga System Programmer's Guide –
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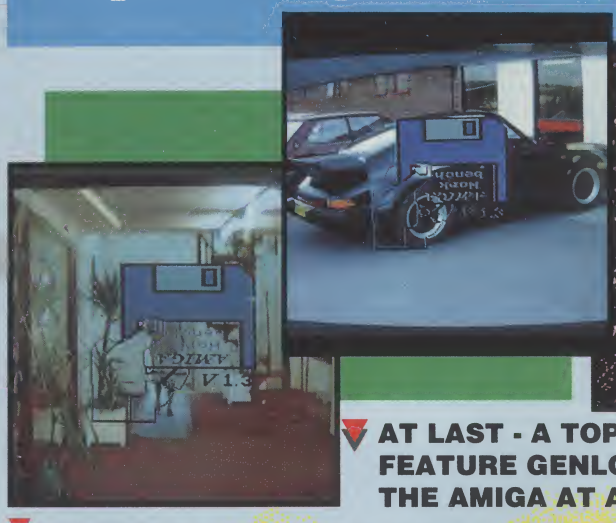

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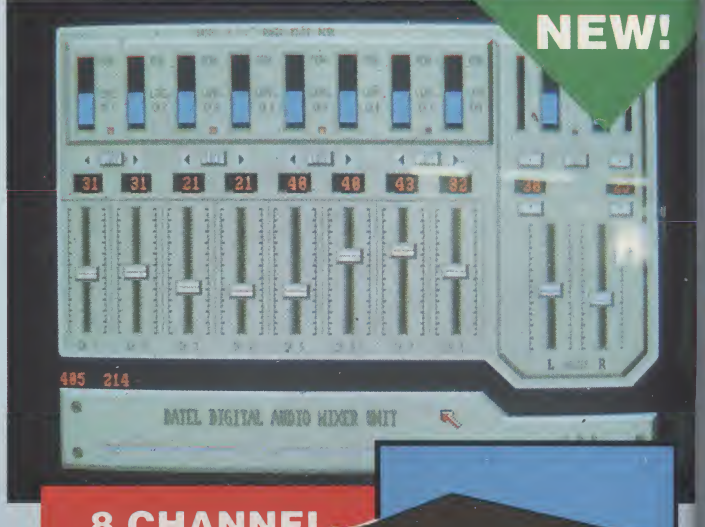

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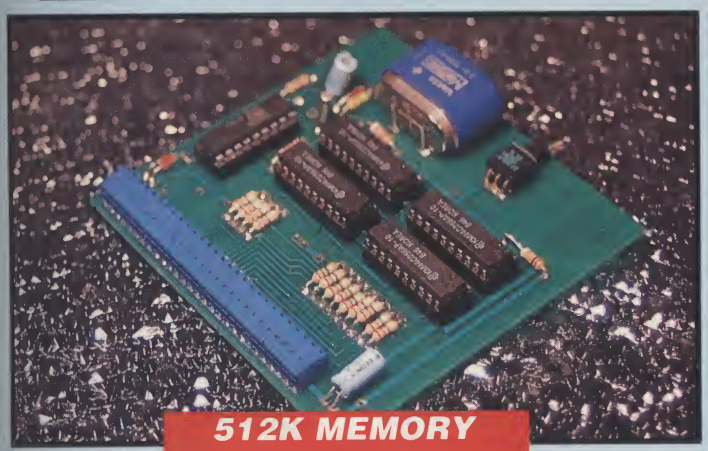

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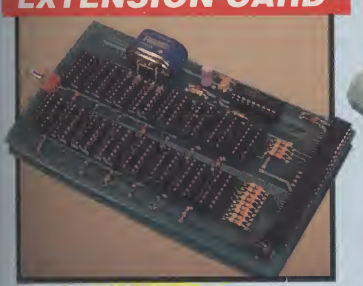

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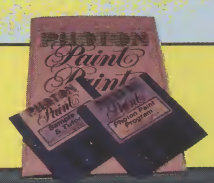

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If you do, you will probably also remember that infuriatingly simple but utterly addictive game, "Shufflepuck". This involved a puck, floating on jets of air, that had to be slammed from end to end of the table, using a "paddle", in an attempt to get it passed your opponent. Take that simple idea, bring it right

"The idea is brilliantly simple and the resulting game is simply brilliant"

up to date as a computer game and you have the recipe for a potential best-seller.

"Shufflepuck Cafe" is exactly that, written by Christopher Gross for Broderbund Software. Using thew amazing capabilities of the Amiga, he has come up with a fiendishly simple game that has kept me coming back for "just one more try" time and time again.

The action takes place inside "The Shufflepuck Cafe", where an assortment of opponents are awaiting for you to play them. The opponents range from the ludicrously easy to beat, to the totally impossible to defeat and include a robot, a drunken crocodile, a princess and an ageing hippy!!

The opening screen shows each of the characters sitting in the Cafe, Shufflepuck at the ready. Clicking on the required opponent will finish the loading sequence and place you at your end of the table. In front of you is a "paddle" that exactly mimics the movement of your mouse. The table stretches away from you in proper 3D perspective and your opponent stands at the other end.

Gameplay is simplicity itself, move the paddle to hit the puck and attempt to get it passed your opponents defences - just like the original. The puck doesn't have to be hit straight on, it can be sliced or "stunned", bounced off the sides of the table or, if you get your timing right, made to travel at an incredible speed. Should you manage to make it passed your opponents' paddle, to the far end of the table, your reward is seeing the puck "shatter" the sheet of glass that stand between him (or her) and the table. The reverse is also true, should you fail to connect with an incoming puck, the glass in front of you crashes down as the puck hits it.

The various players also have different methods of play, the Princess is not adverse to using a little magic to help her, while the aforementioned crocodile sips a cocktail as he plays and invariably ends the game by falling under the table, dead drunk!!

Pressing the spacebar pauses the game and brings up a selection of menu-driven options. These let you start a new game or change opponent and adjust various settings, including the size of your paddle, speed of movement and whether there should be an added obstacle, in the shape of a "Blocker", in the centre of the table.

There really is very little else that I can say about this game, hopefully the screen shots will give you an idea of what it looks like. The idea is brilliantly simple and the resulting game is simply brilliant, I thoroughly enjoyed playing it. If you don't buy any other game this Christmas, go and get a copy of "Shufflepuck Cafe", I gurantee that it will keep you glued to your Amiga well into the New Year.

N.S.

Graphics: 8 Sound: 6 Playability: 8
ABSOLUTE VALUE: 8 Price: £19.95

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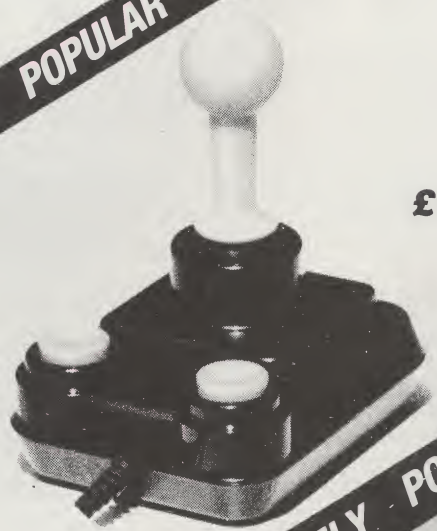

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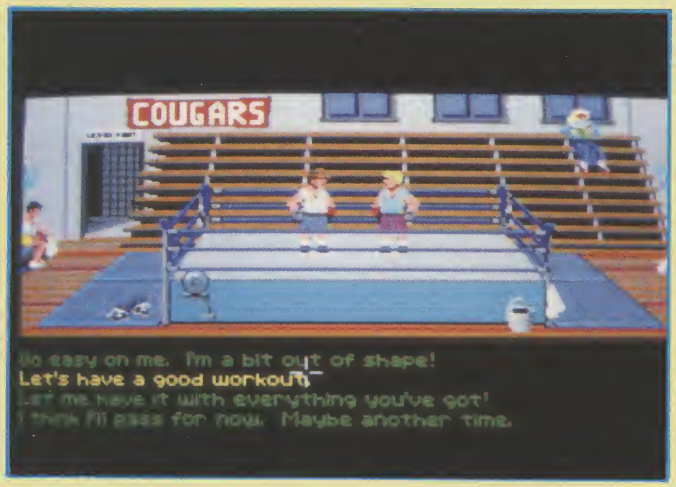

"Indy uses Lucasfilm's mouse-driven graphic adventure system to great effect."

and nouns at the bottom of the screen, the results of which can be seen in the graphics window above. The humour of the film has been developed, and the solutions to puzzles are logical, resulting in an extremely entertaining and user freindly adventure.

Flight Simulations

Interceptor

Just taking off in some flight sims is a daunting task. If messing around with precise flap settings and scrutinising dials turns you off, get your hands around Interceptor's joystick. The program for Interceptor concentrates on the basics of flight technology, and ignores all the niggly details of flight that demand the comlexity of today's fighter planes. Solid 3D graphics with spectacular optional exterior views, a relatively detailed setting of San Fransisco, and uncomplicated gameplay make it the ideal choice or those who like to dabble, without taking a degree in flight physics.

Falcon

Progressing a little on the complexity front, Falcon retains the dynamic graphics and exterior views of Interceptor, but is not as simple to fly. Striking a balance between realism and accessibility, Falcon is a favourite with many armchair pilots. The Falcon Mission Disk volume 1 is available separately, and gives the player a whole new scenario with new goals and dangers.

F-15 Combat Pilot

If you're not interested in watching from a spotter plane as you barrel-roll and let lose a sidewinder, but still quite fancy yourself as a crack fighter pilot, Digital Integration's offering could be just the ticket. F-15 one of the most difficult flight sims around, but there are hours of deep-striking enemy bashing fun to be had if you're prepared to persevere with its highly technical approach. ***T.H.***

Interphase

Revised Rating!

Last month we reviewed Image Works' highly original Interphase. Unfortunately, the section on saving the game positions was absent from our instruction manual, so it was presumed there was no such feature. We have since been informed by Image Works that there is in fact a game save feature. As that was our only serious criticism of Interphase, we thought it called for a re-rating of the game. Apologies all round, and here are the revised ratings:

Graphics: 8 Sound: 6 Playability: 8 Absolute Value: 8

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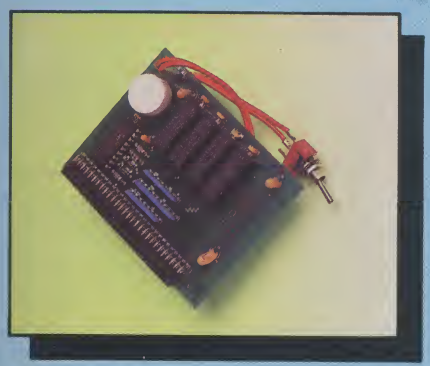

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Short Reports

Clown O Mania
Starbyte

If it's simplicity you want, Clown O Mania could be just what you are looking for. It's a hybrid of Pacman and Crystal Castles, and whilst that does not sound the most exciting recipe for a game, it's been well programmed.

Beppo the clown has landed himself in a strange world, full of valuable jewels. These are arranged in neat rows on the isometric platforms and walkways. Picking up all the gems from one level takes you on to the next, and that's about all there is to the gameplay. It's simplicity and colourful graphics make it an attractive buy for the younger members of the family.

Absolute Value: 6
Price: £19.95

Weird Dreams
Rainbird

Lying in the operating theatre, waiting for the anesthetic, was not an enviable position to be in. Compared to what would happen once the anesthetic had been administered, it was bliss. You are about to experience some nightmares from which you may never awake.

The game is made up of a series of very different, but interconnected dreams. Your objective is to collect four orbs from the various dream scenarios. Thjese are all very diverse, with surreal monsters and scenery, and all manner of strange goings on. If you did not see it featured on the kids TV show Motormouth, you'll be in for more than a few surprises. If you did see it, you'll have to play it through a fair way before you see anything new. The idea is great, and has almost been carried out very well, but it is let down by a severe shortage of gameplay. It plays more like a laser disk arcade machine rather than a computer game, and so it looks a lot more impressive than it actually is.

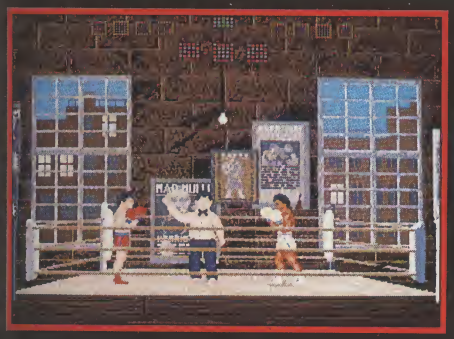
Absolute Value: 5
Price: £24.95

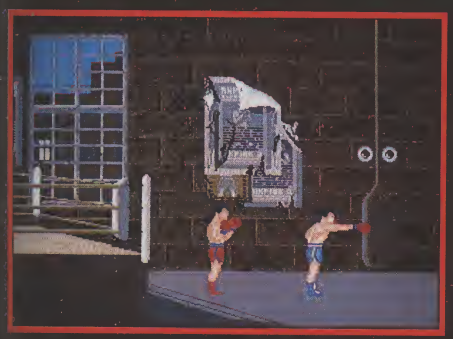
Little Computer People
Richochet

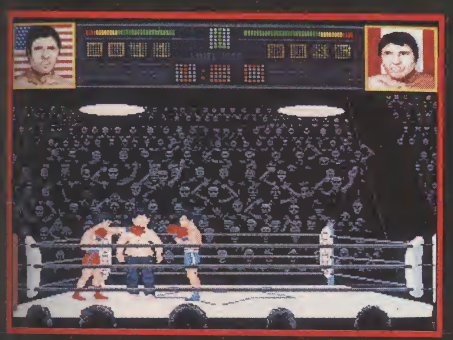
Old hands will remember LCP from its original release some years ago. It gives you the chance to see for the first time, the little people living inside your computer. The disk provides a three-storey house for your pet person, fitted out with homely furnishings and mod-cons. Your new-found friend will need to be kept alive and happy, as will his dog. He'll play cards with you, entertain you, entertain himself with his own computer and TV, and if you're polite, he'll even dance for you! Anyone with half a heart will build up a strong bond with their pet person, and now LCP is out for under a fiver, every Amiga owner should have one.

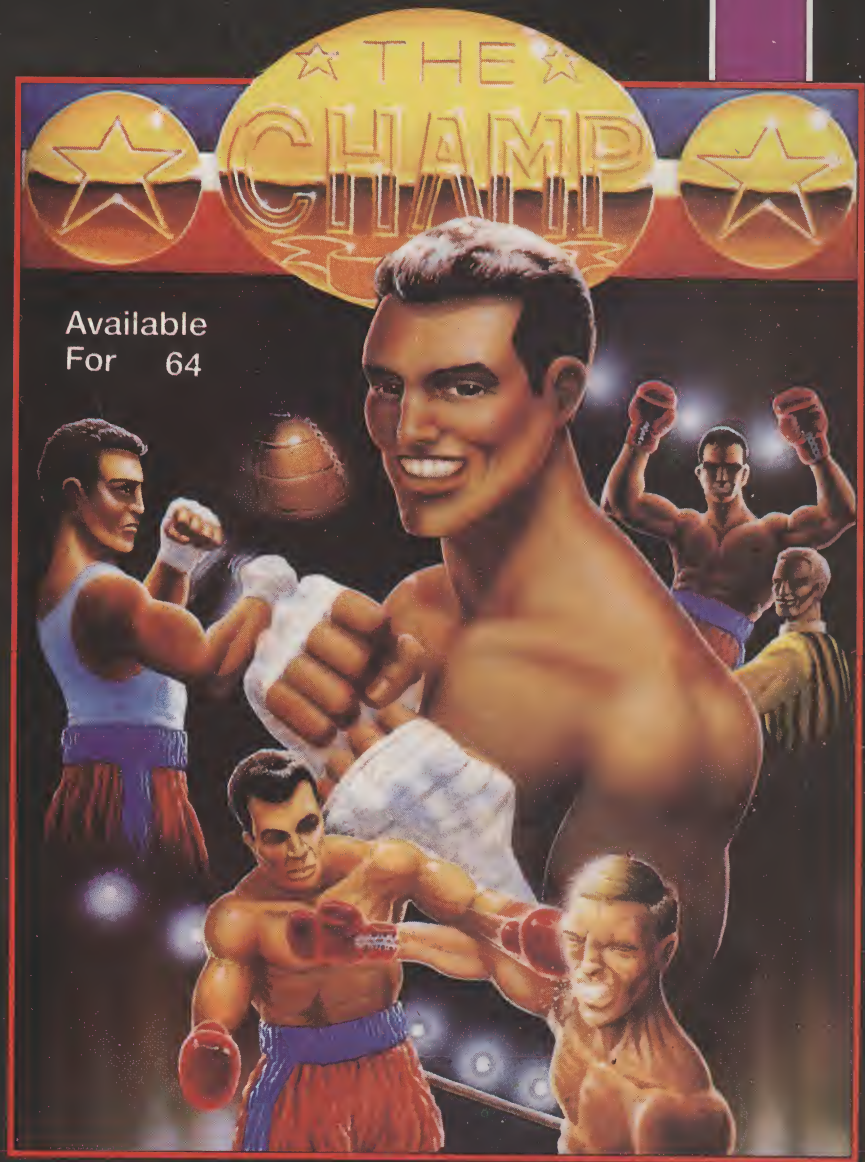
Absolute Value: 9
Price: £4.95

T.H.









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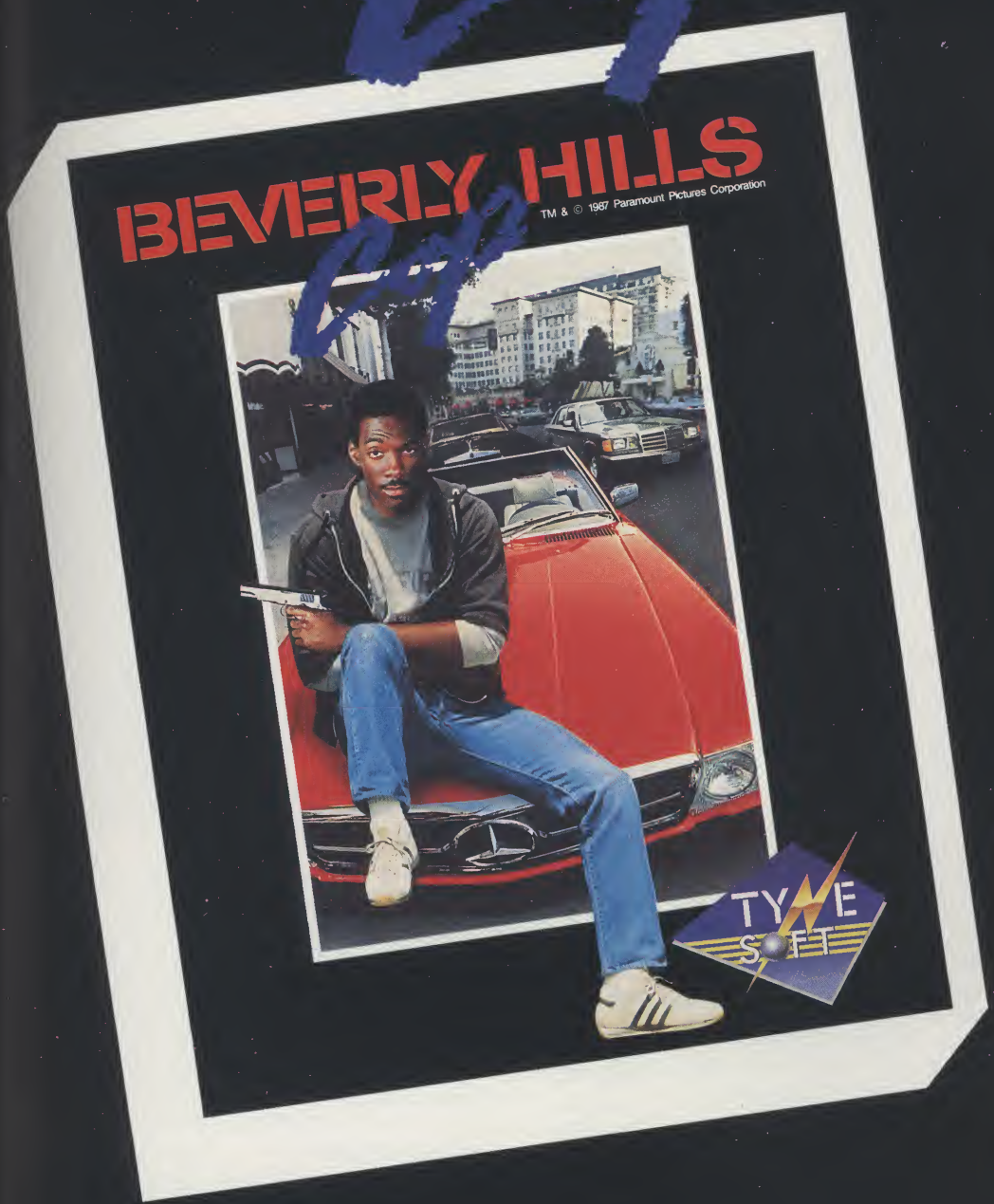

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Toobin'

Domark/Tengen

The word Toobin' is used to describe river racing on an inner tube, a wierd word but catchy none-the-less. Toobin' puts you in the place of Jet or his opponent Biff as you traverse down rapid strewn rivers avoiding many different obstacles designed solely to hinder you in your travels. To make things a little easier some environmentally unfriendly people have polluted the river with old tin cans which can be collected and used as ammunition against these various nastiues. Not only do you have to avoid the standard hazards of the river like fallen trees, sticks, rocks and water snakes, but you also havew to keep a lookout for such everyday inhabitants as mad fly fly fishermen, punk-rockers, swamp monsters and suicidal penguins.

Once you have lost all your lives then it loads the title sequence again. This is done every time a game is played, which I consider a waste of time.

The gameplay is pretty basic using simple joystick moves or keyboard strokes to your player (in my case I chose Jet) about the screen in the same manner as if you were actually riding the ring, i.e. rotate left and right and forward paddle and back paddle, and hopefully dodge the various nasties. Although in theory the moves should be simple enough to put in operation, your pixel pal is moving down (not up) the screen so that your left becomes your right and your right becomes your left. I found myself rotating in completely the wrong direction every time I treid to alter my downward path. While dodging these obstacles several skiing type gates appear with a bonus score added if you manage to manouever your ring through them. One redeeming feature is the facility to play a two player game simultaneously with both Biff and Jet on screen at once presumably working as a team. With two engrossed players this teaming up should slightly make up for the lack of gameplay.

Catchy tunes are played setting the scene in each section of river, with rather cute spot FX. The sprites are of average quality although the character sprites could have been a little more defined, making it easier to see what is happening on screen.

After a while I found continually dodging bits of wood and fishing line extremely boring, and I started to look for other aspects of the game that I may have previously missed, but alas this seemed to be all there was to it. The blurb on the cover boasts many exciting backdrops from the Amazon River to the Martian canals but other than different coloured water there seemed to be no difference whatsoever.

It is a faithful conversion visually but the controls are not sufficiently responsive or the gameplay as interesting as the original arcade version.

If you happen to be the type of person that likes blasting flashing sprites to bits and fancy a different aspect to gaming then give this game a look but if you prefer something that gives you a sense of achievement then leave this one on the retailers shelf and find something else to spend your money on.

M.O.

Graphics: 5 Sound: 6 Playability: 7
ABSOLUTE VALUE: 7 Price: £24.95

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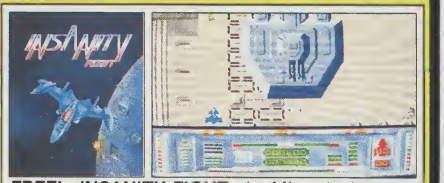

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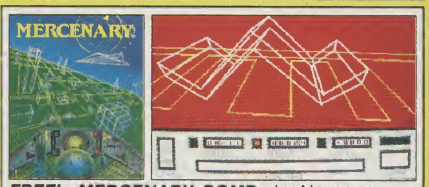

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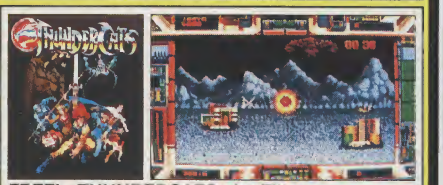

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Trip-a

Llamasoft

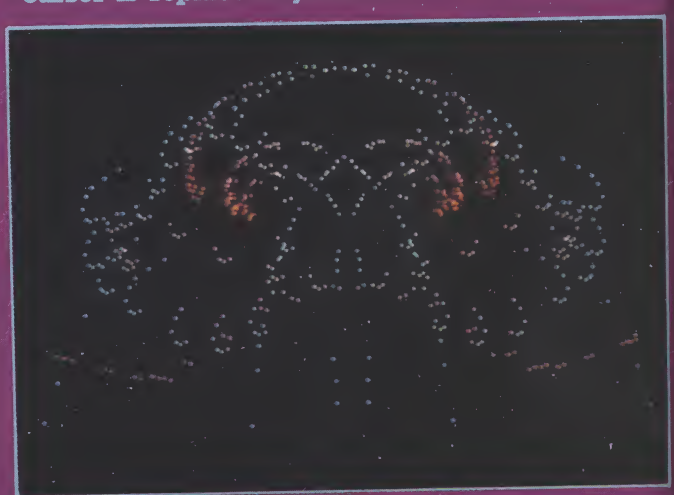
Llama-fan and coder extraordinaire Jeff Minter has returned to the Commodore fold with a creative exploration of light and sound

Toys have advanced a great deal over the ages. In Victorian Britain for example, a working class kid would be overjoyed when on Christmas morning he unwrapped a stick, which with much imagination, vaguely resembled a sword. Not so long ago, similar scenes of Christmas cheer could be witnessed, but by this time the stick had progressed to toy soldiers, train sets and kalaidescopes. Some kids never grew out of their kalidescopes. As time marched on, bringing computer technology with it, one of these kids began writing computerised kalidescope programs. Psychedelia was the first of these, which was followed by Colourspace, and Trip-a-Tron is the latest development from the lightshow-loving Llamasoft lad himself, Jeff Minter.

Upon loading, the program presents you with a panel of icons and half a blank screen. Do as the

"The user is the interface between sound and light, so what happens on-screen is up to you."

manual says, put on some music, make yourself a cuppa, get rid of the control panel, and start swirling the mouse around. Hold down the left button, and the cursor is replaced by a cluster of colour-cycling



pixels. Drag the mouse across the table, and a glowing trail of colour flows from the lead cluster, mirrored on the opposite side of the screen. Pressing various keys invokes the many default starfields, brushes and other effects. Once you have played with that for a while, it's not a bad idea to investigate the many functions available from the control panel.

The control panel gives you the chance to design your own keyboard-controlled effects. Each icon on the panel deals with a particular kind of effect. Click on the starfield icon for example, and the starfield edit screen is called up. These screens can be very confusing for the beginner, as no common system is used for the selection and alteration of options and

a-Tron

parameters. A more user-friendly operating system would have made it more accessible.

Along with the tweakable effect generators, Trip-a-Tron also has its own programming language. Various functions for drawing ellipses, lines, curves and such like, are held together with a handful of structural commands. With these, you can write up to 128 subroutines, assign them each to a key, and run them during your "performance".

"you can write up to 128 subroutines, assign them each to a key, and run them during your "performance"."

The 140 page manual is further evidence of the immense amount of time and effort that has gone into the program. However, effort does not always equate with the result. Boot up Deluxe Paint, set up a smoothly graduated palette, turn on symetry and colour cycling, and you could come up with some freaky images to rival those of Trip-a-Tron, though it really depends on how creative the program turns out to be.

Jeff describes Trip-a-Tron as light synthesiser, drawing parallels between the program and a sound synthesiser. It's designed to be used in conjuction with your favourite music, but, as he is quick to point out, it is not a sound-to-light program. Instead, the user is the interface between sound and light, so what happens on-screen is up to you.

For the solo home user, Trip-a-Tron may not seem to offer very much, far from the implied "zarjaz" experience. On the other hand, if you are planning a party or disco, and have a suitably enormous monitor, it would make an oustanding gimmick, and would work out a great deal cheaper than your own laser show. Trip-a-Tron is certainly worth considering as an addition to your library of Amiga effects, it is high up the 'wow factor' scale and anything Jeff Minter does is always a probable hit.

B.V.

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Battle Squadron

Electronic Zoo

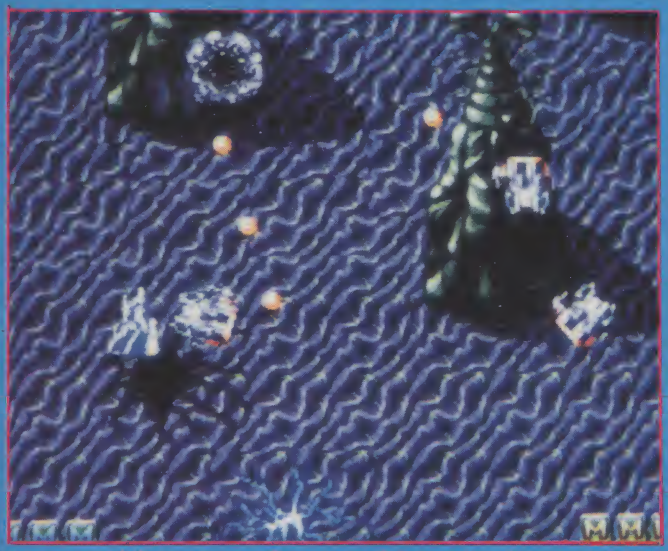
When the Barrax Empire invaded Earth, you swore they wouldn't get away with it. After a couple of year's recouperation, your fleet is now rebuilt and ready to retaliate. A quick hyperspace jump is all it takes to transport you to the Barrax's home planet. Before you know it, you're zapping aliens left, right and centre, in Innerprise Software's impressive follow-up to Hybris.

Battle Squadron is a conventional vertically scrolling shoot 'em up. You can play alone or with a partner, and your aim is to reach the end of the final level. Control of the players' ships is fairly standard. Both begin with a few smart bombs, activated by moving the joystick through eight positions whilst holding the fire button. A touch of inertia combines with a slight horizontal scroll, making precise movement a little tricky, but maybe more challenging for that. Extra smart bombs can be picked up

"All the sprites move around very smoothly, on par with the scrolling backgrounds."

along the way, as can laser upgrades, although these are in very short supply. Lose a ship, and you also lose laser power. Further levels are accessed via ducts in the background scenery.

As usual, the enemy is split roughly 50/50 be-

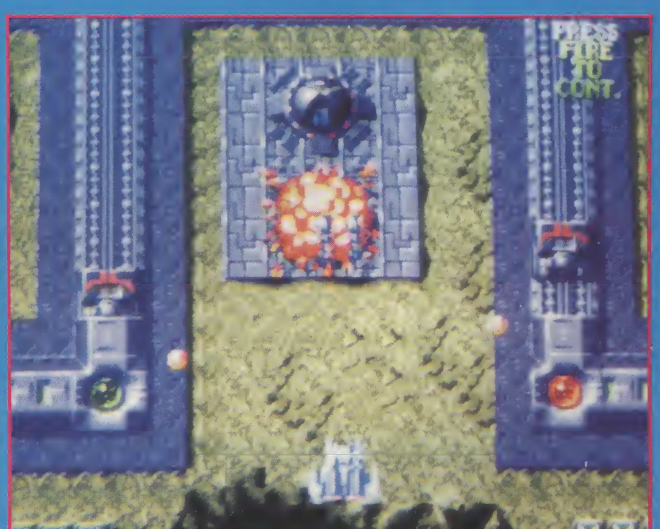


tween airborne and ground-based aliens. Most shoot slow-moving fireballs, which can fill the screen if your tactics are too defensive, so it pays to take out any aggressors as soon as possible. As you progress, the aliens take more hits to destroy, which is fine if you've got a decent weapon, but otherwise can spell the end of your fight.

There are some attractive graphics to be seen, although the polished metallic structures are more neat than artistic. All the sprites move around very smoothly, on par with the scrolling backgrounds. Both the sound effects and music are very similar to those of Hybris. The effects are good and zappy, but the optional music is forgettable.

Vertical blasters have been around so long, that any arriving now need some mindblowing features to impress a seasoned gamer. Xenon II excelled in graphics, sound and gameplay, and included savage-looking aliens, along with plenty of surprises. Xenon II was not just another shoot 'em up, but some might be inclined to say that Battle Squadron is. It's all very extremely well programmed, but there's a lack of imaginative design. It's perhaps a little too predictable, from the hi-tec buildings of the first level, through to the following slime-covered scenery. It is gameplay that counts and Battle Squadron has a superabundance of exciting action. A newcomer to the Amiga would do well to give it a bash. It may leave the already bored with shoot 'em ups unmoved but this has got to be regarded as an outstanding example of the genre. Highly recommended.

B.V.



The rise, fall, and second coming of the shoot 'em up...

Once Pacman entered the arcades all those years ago, it looked as if we'd seen the last of the likes of Space Invaders and Galaxians. Who in their right mind would spend time shooting aliens, when they could be munching dots in a maze? The popularity of the shoot 'em up did fade as the first of the maze and platform games arrived. The Invaders theme began to make a come back around four years ago. With more advanced hardware, the levels and aliens got bigger and more elaborate, and gamers once again could be heard raving over the latest shoot 'em up. Xenon II showed us that there is still life in the format, but it takes a lot of doing to satisfy today's alien annihilators.

Graphics: 7 Sound: 6 Playability: 8

ABSOLUTE VALUE: 8 Price: £19.95

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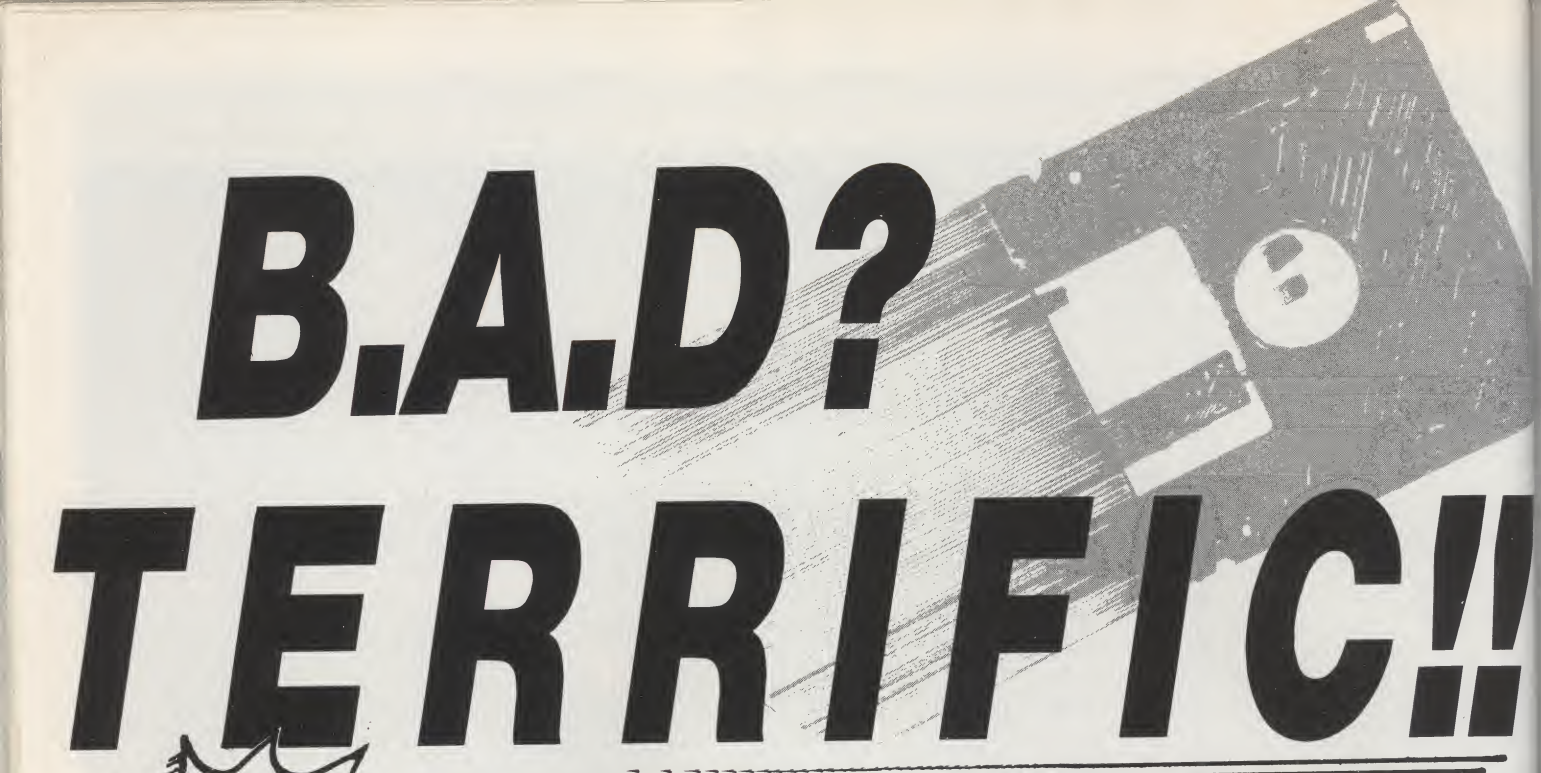

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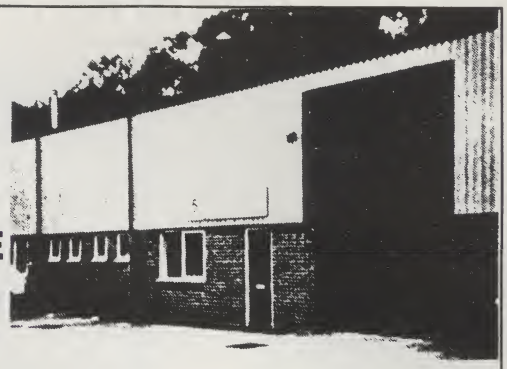

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SPACE ACE

PREVIEW

Space Ace is the follow-up to Dragon's Lair, and goes one better by running on the standard 512K Amiga – as well as having over three times as many screens.

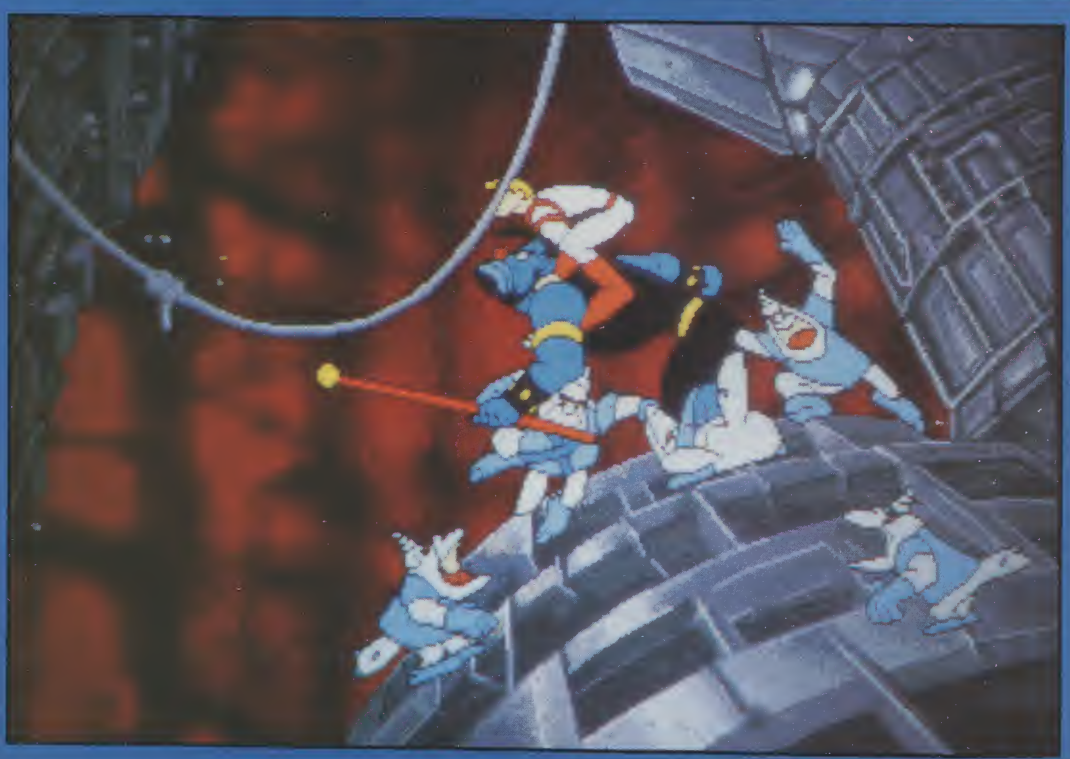
Ace – our hero, has landed himself with a few problems. The evil commander Borf is planning to take over the planet Earth with his dreaded Infanto ray gun, and to add to Ace's problems, his beautiful girlfriend Kimberley is in the grips of Borf!

Ace has to travel through FORTY screens, each one totally individual, to rescue his girl and save the world. Digitised sound from the original laserdisk coin-op adds to the atnosphere, and the graphics are without a doubt the best ever to grace our Amiga screens.

Though we have seen the game in its entirety, the pre-production copy did not let us sample the game-play itself, so it is impossible to comment on whether or not it will offer more player interaction than Dragon's Lair.

Space Ace is bound to cause a stir when it is released within the next few weeks. The release of Dragon's Lair saw people rushing out to buy 1 Meg expansions and even complete Amigas, just to look at the stunning graphics! At least you don't have to upgrade to be a Space Ace! A full review will appear in the next *AUI.*

S.P.



IT'S SPACE ACE

CARTOON TIME, FOLKS!

WIN! WIN! WIN! WIN! WIN!

Space Ace, Readysoft's follow up to the stunning cartoon adventure Dragon's Lair, is due out on the Amiga any day now. It takes the amazing graphical style of Dragon's Lair, and tells the story of our hero Ace's battle to rescue his girlfriend Kimberly from the evil Borf, who plans to take over the world with his "infanto-ray gun", turning everyone in his way into three year olds!

Empire, who distribute it for Readysoft in Europe, are so excited about this six-disk epic, that they've given us a set of five classic Walt Disney cartoon films on video, Sleeping Beauty, Bedknobs and Broomsticks, The Sword in the Stone, Dumbo and Winnie the Pooh can be yours, if you are the sender of the first correct set of answers to the questions below to be pulled from the hat. The winner will also receive a copy of the game, as will the 25 runners up.

QUESTIONS:

1. What was Winnie the Pooh's favourite game involving a bridge over a stream?
a) High diving?
b) Pooh sticks?
c) Backgammon?

2. Dragon's Lair featured a daring young knight as the central character. What was his name?
a) Arthur?
b) Lancelittle?
c) Dirk?

3. How many individual screens are included in Space Ace?
a) 10?
b) 20?
c) 40?

Answers on a postcard to:

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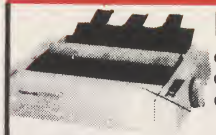

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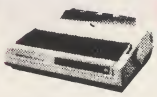

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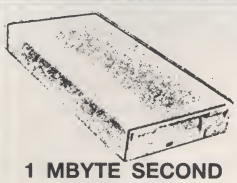

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Cinemaware

After Lords of the Rising Sun and Rocket Ranger comes Cinemaware's latest epic. Andy Moss goes to the flicks to find the bugs are coming...

There is no denying that Bob Jacobs, Cinemaware's rotund boss has a keen sense for picking perfect subjects for his games. He really is a kid in an adults body, lost in a time warp, and reliving all his childhood memories. He has said to me on more than one occasion, that if he can recreate

real cinema drama on our computer screens then he is only half way to acheiving his real aim. Complete interactive entertainment is his goal, using the power of computers, t.v and audio/visual hardware to let us indulge in our every fantasy. Till then, the Cinemaware policy is action and adventure in every product, and with THEY CAME FROM THE DESERT, the old B movie theme, so well implemented in ROCKET RANGER, is resurrected again in the guise of an Indiana Jones-like character, fighting giant ants in hicksville U.S.A.

From the moment the opening credits roll on screen we know that we have a quality product on our hands, with original atmospheric music, a human voice-over and plenty of wonderful Cinemaware graphics that seem to pull the very best out of our Amigas.

However, nothing is ever perfect and, I am sad to say, THEY CAME FROM THE DESERT does have its flaws. Some of the scenes are a bit tacky and pointless, the knife fight for example is not up to the standard in any way of the famous fist fighting scenes in RR. The escape from hospital is a direct rip off of the attack on the castles from Lords of the Rising Sun, which in itself was a GAUNTLET type affair, and the 'chicken run' car sequence is quite out of character for the plot. The rest though is pure Jacobs Genius at its best, with all the subtle action we have come to know and love.

The plot concerns a small Californian town called Lizard Breath which has been at the centre of a large meteor crash in the desert on the outskirts of the town. You play Doctor Greg Bradley, a geologist who has come to study the meteor fragments. However you find evidence of something much more sinister... giant ants, whose nest must be discovered and destroyed. The game is actually in three parts, part one has you running around town trying

to find four pieces of evidence to convince the mayor that the bugs are real and to call out the National Guard. This is done by talking to various townsfolk who all have stories to tell about the strange happenings, some will be truthful others will be fabrication, and then following them up. This will eventually lead you to the creatures tracks in order to make a

IE FROM DESERT

plaster cast, get a recording of the creatures sounds, and obtain tissue and fluid samples. If your evidence is conclusive, the mayor will call out the National Guard, and part two begins.

The mayor will now appoint you in charge of the local task force assembled to clear the community of the ants. You have to plan a way to put your resources to the best use in the most strategic places and fend off the attacking insects. This is now a full

"Most of the map centres around the map of Lizard Breath"

blooded wargame, and you get to fly planes, shoot .45 calibre magnums and drive tanks in your mission of mercy. Great stuff!

Part three, really is the end game, and has you running around a labyrinth of tunnels deep in the mines to locate the Queen Ant's nest, drop some dynamite and get the hell out of there as quickly as possible! The urgency in the game is even more acute when you learn that in total you only have fifteen days to complete the job, and if old queenie ain't history by then the game is over and you are, as they say, ant fodder.

Most of the game centres around the map of Lizard Breath, and obviously the further away you are from certain locations, the longer it takes you to get there. The secret is to plan your visits to make the most of the time available. Remember, places of work close at certain times, and also you need your beauty sleep, because unless you get at least 8 hours a night, you will not function properly. The dialogue runs across the bottom of the screen, and your responses are listed on a panel that pops up when needed. These consist of 'what to do' actions, like 'accept his offer', or 'send samples to lab' or 'go to map' etc. Watching this panel pop up and down does become pretty tedious after a while, surely they could have devised a better response technique?

The route to certain locations will eventually have you running into 'The Hellcats', a trio of psycho roughnecks who rule the local roads. They will challenge you to a game of 'chicken', a car race game where two cars drive straight at each other at

top speed until one car 'chickens out'. This pathetic sequence is an excuse to get you into the hospital, where you either lose two days action, or initiate another poor sequence which has you trying to escape.

These silly scenes, oh and the stupid knife fight, are a blot on an otherwise excellent game that whilst not as immediately appealing as Rocket Ranger, is still a great testimony to what can be achieved on the Amiga when it is put in the right programming hands.

A.M.

Graphics: 8 Sound: 8 Playability: 9
ABSOLUTE VALUE: 8 Price: £24.95

Ghouls 'n' Ghosts

US Gold

When it comes to converting coin-ops to the Amiga, US Gold don't have the best track record for improving on the ST versions. Tiger Road, LED Storm and Strider for example, playable though they are, all could have been bigger, smoother and faster. With that in mind, my hopes for a classy conversion of Capcom's brilliant Ghouls 'n' Ghosts were somewhat restrained.

"Excellently re-drawn from his arcade form, e leaps around the lands with even more gusto than before."

However, I'm pleased to say that although it's not the parallax-scrolling extravaganza you may have hoped for, Amiga Ghouls has turned out rather nicely.

Sequels which closely follow the theme of the original are often disappointing, but as Ghosts 'n' Goblins is still one of the most playable coin-ops around, it's fortunate that Ghouls doesn't stray too far from its roots. You probably remember how Arthur the knight had his princess kidnapped by the demons of the underworld. He managed to fight his way down to the bowels of hell, rescue his girl, and give Lucifer a good hiding into the bargain. A few years on, the whole thing is happening all over again!

Despite his rock hard reputation, Arthur is really rather cuddly. Excellently re-drawn from his arcade form, he leaps around the lands with even more gusto than before. He can now throw his limitless supply of lances above and below him, a new skill he's learnt to help adapt to the new set of lands. The first of these is very much like to opening scene of the original. The zombies have been replaced by

grim reapers, stocks take the place of headstones, and the comparatively friendly birds have been transformed into menacing vultures. Spooky guillotines rythmically open and close, and treasure chests rise from the earth. Shoot these and they'll open, revealing either a special weapon, or a wicked

"The status panel has been pushed down into the extra space a PAL display provides, and the overall look is very impressive."

scorcerer (you never know which). Should the scorcerer zap you with his magic, you'll be turned into a defenceless duck for a few seconds.

Half way through the first level, you run into a storm. Unlike the coin-op, the trees don't blow

around in the gale, but the rain hammers down as you soldier on. The snaking carniverous roots are nowhere to be seen, but you still have to fight off the pigs and walking campfires. A short hop down the proceeding cliff brings you face to face with the armoured level guardian, who pulls off his head and begins spitting fireballs in your direction. Nasty type!

Level two begins with Arthur dodging a series of bouncing stone heads, against a backdrop of derelict windmills. A few clever "hermit tortoises" have found that these skulls make excellent shells. These crawl around the place, further threatening your three lives. Soon they give way to loose piles of gravel, which could be crossed by the overhead rope bridges, were they not rotted to breaking point.

Each level has its own soundtrack, all of which were written by Tim Follin. As you'd expect from the man behind the music of Bionic Commando and LED Storm, they're all very original, and extremely spooky. Whilst the theme of the underworld is continuous, each level has a very different look, introducing new traps and enemies. Getting to see them all is going to take some doing, but as most of the gameplay has come across from the coin-op intact, you'll have a good time trying.

On the whole, the graphics are very accurate copies of the originals. Arthur looks great in his armour, although he's not as impressive once he's lost his suit. Additional graphics have been added to the those of the ST game, and more colour than the Atari version has lead to a smoother look. Scrolling is not perfect, but is nonetheless fast and easy on the eyes. The status panel has been pushed down into the extra space a PAL display provides, and the overall look is very impressive. Best of all, it plays superbly. It's far from easy, but the collision detection is usually biased in your favour (although there is the odd exception). Amiga Ghouls is a slightly more scaled-down version of the original than I had hoped for, but has still turned out better than might have been expected. Easily US Gold's best yuletide release, Ghouls 'n' Ghosts deserves to go far, and probably will.

T.H.

Graphics: 8 Sound: 8 Playability: 9
ABSOLUTE VALUE: 8 Price: £19.95

Hard D

Domark

Despite its reputed realism, I never found the Hard Drivin' coin-op that involving. So it has a clutch and a simulated four-speed gearbox, but the feel is nothing like any car I've ever driven. That's not to say the game itself was no good, and as any arcade addict will know, it turned out to be one of the most popular machines of the year. Domark's Tengen conversions have been less than amazing so far, but this time they've done the business.

A joystick isn't an ideal substitute for a steering wheel, so you get the choice of mouse or joystick control. You also get to choose between an automatic or manual gearbox. On top of that, you get three difficulty levels.

Fortunately for the little old Amiga, the coin-op wasn't a shocker in the graphics department, so the opening screen in the conversion is very close to the

original. The car chugs into life, and there's a short dash up to the turn-off for the stunt track. If you've played the arcade machine, you'll be familair with the car's severe lack of traction. If not, you'll probably spend more time off the road than on it.

"A small indicator in the centre of the dashboard tells you which way the wheels are facing"

Counter-steering is the key to success. A small indicator in the centre of the dashboard tells you which way the wheels are facing, which may sound pointless, but it's an essential addition from the programmer, without which the game would be completely unplayable.

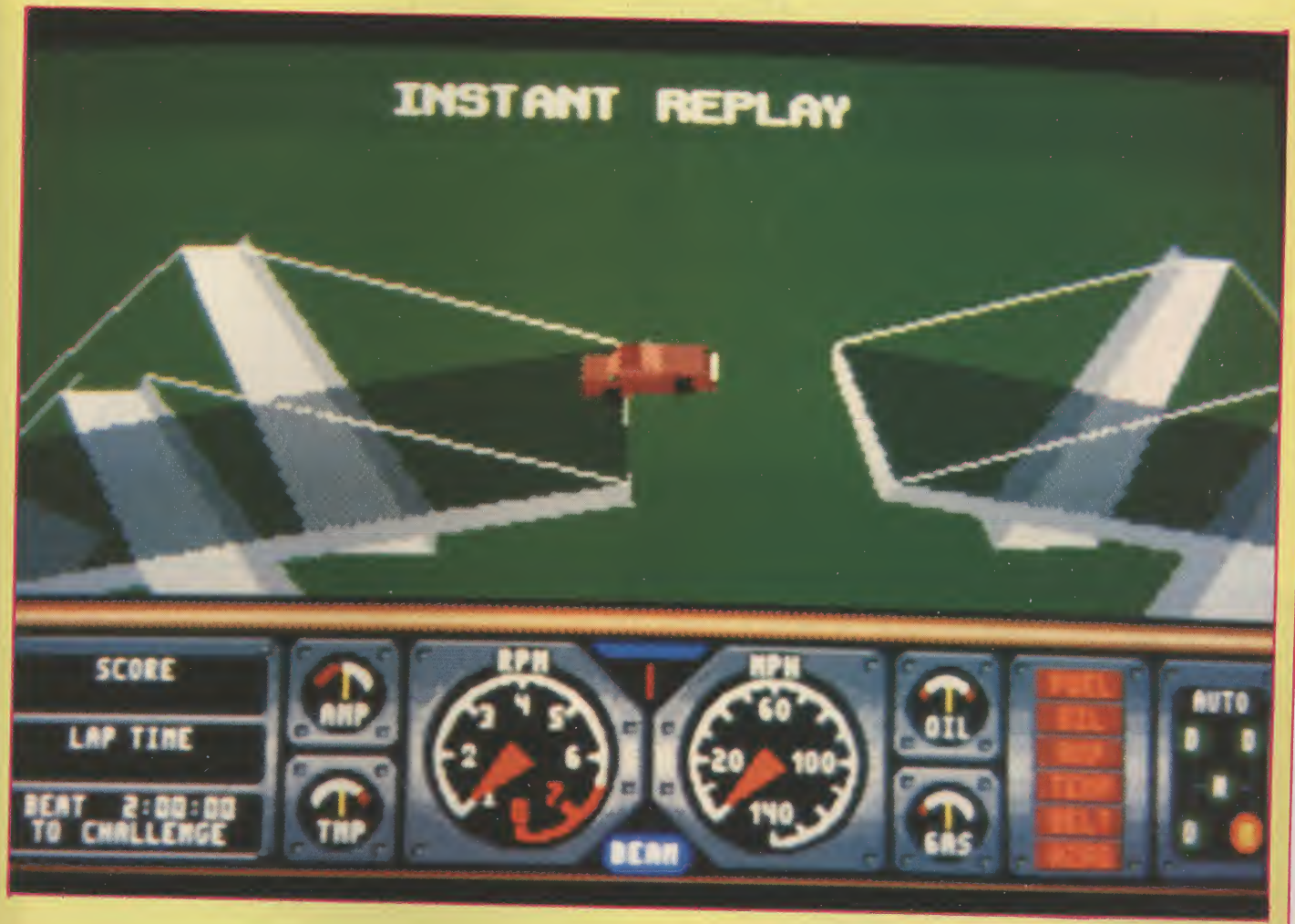
Ignoring the early junction will take you on to the speed track, which is a good idea if you want to get the hang of cornering. Signs at the roadside give you advice on the maximum speed at which the approaching corner should be taken. There are rarely any obstacles or buildings on the outside of

"If there's a slow-moving car ahead, you may opt to switch to the right hand lane. If so, you'd better pray that there's nothing coming the other way."

the bends, which is handy, as keeping to the tarmac is not easy.

For the more adventurous hard drivers, there's the stunt track. If you manage to avoid sliding into the barn on the first bend, your worries start with the

Drivin'



bridge. The middle section seems to have crumbled away, so the only thing to do is jump it. A decent exit from the following bend is a great help with the loop-the-loop. If there's a slow-moving car ahead, you may opt to switch to the right hand lane. If so, you'd better pray that there's nothing coming the other way. Although most of the game is viewed through the windscreen, any crashes are replayed from a "spotter plane" view. Watching your car swerving around the road, before careering into a juggernaut, is almost as much fun as playing the game.

Hard Drivin' plays very much like its arcade parent. It's not exhilaratingly fast, but then nor was the coin-op. There's plenty of detail and variety in the landmarks, so you're not just driving around a featureless wasteland, but it still retains a speed and fluidity that's more than adequete (although it's a bit of a mess when it comes to driving the loop). The feel has been translated very accurately, and the game loses nothing through its lack of a steering wheel and gearstick. The Phantom Photon has also been included. Beat his lap time, and you get to race him.

My only serious doubt about the game is its lasting appeal. With only the stunt and speed tracks for variety, it may not hold your attention for too long, although we hear that extra scenery disks are in the pipeline. Faced with the choice, I'd opt for the more speedy Stunt Car Racer. On the other hand, if you want an extremely accurate conversion of the coin-op, go for Hard Drivin'.

T.H.

Graphics: 8 *Sound: 6* *Playability: 8*

ABSOLUTE VALUE: 8 *Price: £19.95*

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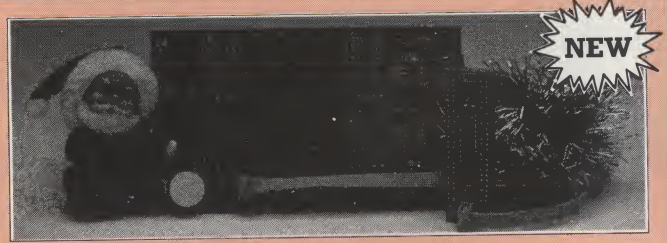

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Stunt Ca

MicroStyle

Considering the massive boom on the racing scene, relatively few companies have produced worthwhile programs in the past. MicroStyle are out to set the records straight with a highly original and playable game called Stunt Car Racer.

Though, racing games have been on the market for as long as I can remember, Stunt Car Racer has claims to be one of the most original. Unlike most racing games, the tracks are all raised from ground level so you have to be extra careful not to fall off the edge, or you will be sent tumbling down crashing to the floor. You may be wondering how your car gets onto the track if the tracks are raised, well the

answer is quite simple, you get lifted up with the help of a crane.

Your aim is too reach the first league and win the championship. There are eight different tracks, four leagues and eleven racers to contend with. You start off in the bottom league, and to work your way up to

"The first two tracks seem very daunting initially, but after a few goes on the practice option you will be racing round them fast and comfortably."

the top you have to beat the other two racers. Promotion is decided by the driver who has the most points at the end of the four races. You get two points for each game you win, and one point if you lap faster

than your opponent.

There are only two drivers on the track at one time, so in a way it is rather like having a drag race but with twists and turns added for good measure. The first two tracks seem very daunting at initially, but after a few goes on the practise option you will be racing round them in fast and comfortably.

Before each race you are shown the track from above so you know just what you are letting yourself in for. You can also view each part of the track by scrolling the whole way through it.

Your opponents car and all the tracks are drawn in solid 3D graphics which give the game a great sense of realism and make you feel as if you are right there in the action. Although the graphical elements are mainly drawn in block form, for example, your opponents car is simply four squares for wheels, and a rectangle for the body, the graphics still come

ar Racer

across as realistic as in any other game.

Movement is ultra fast (especially when you use your turbo) and functions smoothly with no jerking. Your speedo is shown at the bottom of the screen, and you can reach speeds of up to 140 mph. You should use your turbo sparingly though, as you only get enough for short blasts now and then as you speed past your opponent.

"It is really good to see such an old format altered slightly turn out so original and enjoyable to play."

The tracks come complete with jumps, humps, bumps and banked curves to make your ride all that more exciting. The way your car flies over the jumps

and accelerates round the corners is so realistic, and you find yourself getting really involved in the game.

If you take the jumps at too low a speed you could find yourself gliding towards the upright in the landing ramp. Each time this, or something similar happens, a crack will appear on the top of your roll bar. When the crack reaches all the way across to the other end, your car is certified as a complete right off and it is game over for you.

On the harder tracks, a good way to get around without causing too much damage to your car is to tag along just behind your opponent and do just as he does. All of your opponents have their own, rather wierd names, as in Revs, (created by the same progammer as Stunt Car Racer) and come with their

own little mug shots so you know exactly whom you are racing.

The game has no sound track which is a bit of a shame, but the sound effects are adequate. The graphics are very colourful and imaginative giving superb realism to the whole program.

It is really good to see such an old format altered slightly yet turn out so original and enjoyable to play. Make sure it is on your list this year, if you want something to keep your mind off the cold winter days and depressing aftermath of the holidays.

D.H.

Graphics: 9 Sound: 7 Playability: 9
ABSOLUTE VALUE: 9 Price: £24.95

PREVIEW

SHARP SCANNER

ASDG INC. are about to release the world's first hand-held colour scanner – the Sharp Electronics JX-100.

ASDG tells us that, in addition to its easy to use scanner control interface, ASDG's ScanLab/100 software offers fully variable digital reduction along either the x or y axes. This feature is important because it lets the user correct distortions in the Amiga screen aspect ratio, perform special effects, or convert image resolutions quickly and easily.

ScanLab/100 also incorporates a new HI RES 4096 colour mode, called A-RES, which delivers an impressive screen resolution of 768 x 480 on NTSC monitors (or 768 x 680 resolution in PAL) with all 4096 colours present. A-RES marks the first time that any Amiga program has displayed all 4096 colours on a HI RES Amiga screen. This new video mode affords new flexibility to those using the Amiga to create film, slide or video presentations.

ScanLab/100 supports all Amiga video modes, including Low-Res, Hi-Res, Low-Res Overscan, Hi-Res Overscan, Interlaced and Non-Interlaced, Interlaced Overscan and Non-Interlaced Overscan – on NTSC and PAL systems, all at the click of a button.

Other features include colour balancing, fully variable gamma correction, internal software-based image cropping, and image rotation.

ScanLab/100's advanced dithering techniques (six dithering modes are supported) allow it to display up to 262,144 apparent colours simultaneously.

The JX-100 can scan an approximately 4 x 6 inch (10 x 15cm) area at a resolution of 200 DPI, yielding image resolutions of up to 1280 x 800 pixels. It also offers many of the same capabilities as Sharp's more professionally oriented scanners, such as the ability to perform black and white, gray scale and colour scanning for desktop publishing. Via ScanLab/100, the JX-100 is compatible with all Amiga models without additional interface hardware.

ASDG products are distributed in the United Kingdom by Advanced Technology Holdings, Jersey Supreme Works, 538-546 Whippendell Rd., Watford, Hertfordshire, WD1 1QN, England, Tel: (44) (0923) 817458, Fax: (44) (0923) 817417.

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For the
Amiga 1000...

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Intuition

Tying up the loose ends of Mike Nelson's series on Intuition...

```
/* Program to demonstrate reading the joystick directly from the
hardware registers and also to alter the status of the power LED.

#include "exec/types.h"  /* Things don_t seem to change much, do they? */
#include "hardware/custom.h" /* This is a new one  */
#include "hardware/cia.h"    /* ...and so is this! */

#define CIA-CHIP 0xbfe001  /* This is the hex. address of the CIA chip */

void main(); /* What a waste of a line... so _ello Universe */

void main (){  /* Endless loop, not usually a cool idea! */
   extern struct Custom custom;  /* This is set magically somewhere! */
   struct CIA *cia = (struct CIA *) CIA-CHIP;
   UWORD joy;  /* Represents the status of the stick */
   UWORD but;  /* This is the state of the fire button */

   for (;;){
      joy = custom.joy1dat;  /* Equivalent to a BASIC Peek command     */
      but = cia -> ciapra;   /* Take a look in Buttonsville, & test it */
      if (joy & 2) printf ("Right...
n");  /* These are nice _n_ easy */
      if (joy & 512) printf ("Left...
n");
      if ((joy >> 1^ joy) & 1) printf ("Down...
n");  /* These aren_t */
      if ((joy >> 1^ joy) & 256) printf ("Up...
n");
      if (! (but & 128)){         /* Fire detected by resetting bit */
         printf ("F I R E!
n");
         cia -> ciapra &= 0xfffd; /* Also alter the LED (Poke in BASIC) */
      }

= 2;    /* This dims the LED if no fire press */
   }  /* End of for... */
}     /* End of main() */


opt c-,d+
incdir dh0:include/  replace _dh0:_ with your include dir
include intuition/intuition.i
include intuition/intuition_lib.i
```

continued on page 112

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Access

VISA

continued from page 110

```
 include graphics/graphics_lib.i
 include exec/exec_lib.i

;------------------------------------------------------------------

NULL equ 0

;------------------------------------------------------------------

 lea Intlib,a1  ptr to library name string
 moveq #$00,d0
 Callexec OpenLibrary attempt open
 move.l d0,_Intuitionbase
 beq err_exit  not successful

 lea Gfxlib,a1  ok - now open graphics library
 moveq #$00,d0
 Callexec OpenLibrary
 move.l d0,_Gfxbase
 beq err_CloseInt  not successful - clean up

 lea QuadScreen,a0  ptr to our NewScreen
 Callint  OpenScreen
 move.l d0,Screen_ptr
 beq err_CloseGfx  not succesful - clean up

 move.l d0,a0   all is well - get Screen ptr
 lea sc_BitMap(a0),a1 offset to BitMap structure
 lea bm_Planes(a1),a1 offset to bitplane addresses
 movem.l (a1),d0-d3  get four plane addresses
 movem.l d0-d3,Plane1_ptr store four plane addresses

 lea sc_ViewPort(a0),a0 offset to ViewPort
 lea Palette,a1  ptr to colours
 moveq #Numcols,d0  number of colours
 CallGraf LoadRGB4 attach palette to screen

 bsr Draw_Rectangles  draw directly into planes

 Callexec Forbid  stop multi-tasking
 Callexec Disable  stop interrupts
LB_wait
 btst #6,$bfe001  wait for left mouse button
 bne LB_wait
 Callexec Enable  allow interrupts
 Callexec Permit  allow multi-tasking

KillScreen
 move.l Screen_ptr,a0  clean up - first close screen
 Callint  CloseScreen
err_CloseInt
 move.l _Intuitionbase,a1 now close Intuition Library
 Callexec CloseLibrary
err_CloseGfx
 move.l _Gfxbase,a1  then close Graphics Library
 Callexec CloseLibrary
err_exit
 moveq #$00,d0   tidy exit to CLI
 rts

;------------------------------------------------------------------

Draw_Rectangles
 move.l Plane2_ptr,a0
 move.l Plane4_ptr,a1
 lea 810(a0),a0  arbitrary offset for plane2
 lea 1216(a1),a1  arbitrary offset for plane3
 moveq #100,d7   line count
DR_outer_loop
 moveq #$03,d6  horizontal count (4 longwords = 128 pixels)
DR_inner_loop
 moveq #-1,d0
 move.l d0,(a0)+  write directly into planes
 move.l d0,(a1)+
 dbra d6,DR_inner_loop for all longwords X
 lea 24(a0),a0  modulos
 lea 24(a1),a1
 dbra d7,DR_outer_loop for all lines Y
 rts

;------------------------------------------------------------------


Intlib  dc.b "intuition.library",0
  even
_Intuitionbase dc.l 0

Gfxlib  dc.b "graphics.library",0
  even
_Gfxbase dc.l 0
```

continued on page 122

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Animation packages

Animation is a moving subject for our resident expert Peter Lee, who flips over the top-grade programs now available for the Amiga

Aegis Animator

Throughout its relatively short life, the Amiga has earned a reputation as the finest graphics personal computer around. Since the A1000 was released not a lot has changed - apart from a new Kickstart or two, the machine spec has been good enough to see off the competition. And for graphics users with the phasing in of the enhanced Chip Set things can only get better.

Having fitted the tricky little fat Agnus chip to my A2000 I now have a megabyte of chip ram, which allows greater flexibility in art programs, and especially breaks down barriers for dealing with hefty chunks of animation.

At around the £50 mark for the chip (a special extractor tool could set you back another £25 or so if your kindly dealer cannot be persuaded to loan you one), and a task not for the faint-hearted (yes, you DO have to cut two PCB links), it is money well spent. New A2000s are already being sold with this chip in place.

For animation, the trend has been towards greater sophistication, and art packages such as DPaint and Photon Paint now confirm the importance of this feature of Amiga life and incorporate some above-average facilities for moving objects around for real-time playback.

Animation packages generally work by showing sequences of pre-drawn screens in rapid succession (using various memory-saving dat compression techniques), but some more specialist kinds of software adopt a different approach - metamorphic transitions, which smoothly move polygons around and re-shape them. In either case, a play-rate of between 30 and 50 frames per second gives acceptable results (after all, cinema film travels at only 24 frames per second).

Users then have the choice between true 3D programs - which render and animate a 'real' world inside the computer (for instance Sculpt-Animate), and the standard two-dimensional software. The former usually require a greater amount of time to set-up an image, and much longer to actually render each frame, but the results can be exceptional (Newton's cradle, Khanakas and The Juggler are probably the best-known examples of 3D animation).

It is also a tribute to the Amiga's versatility that animation just for the fun of it can exist alongside professional work, both using the same hardware and software. It is all a question of expertise and talent, but even with a minimum of artistic skill, an animation package can elevate your work into an attractive spectacle.

One word of caution though - the price in terms of memory is high for animation packages. Serious work will require at least two megabytes, with more to really get things moving. Using the lower resolution modes maximises the number of frames of animation you can store, but at the cost of definition.

If video work is your aim, then you will need to work in high resolution for optimum results; this only allows 16 colours on screen at once, but gives

MovieSetter

smooth edges to objects. It is also very greedy for RAM. Not all software allows work in any resolution, so bear this in mind.

Animation Software

Now a rundown of the major software packages you might be considering.

Falling into the dual-use category comes *DELUXEPAINTIII* and *PHOTONPAINTII*. DeluxePaintIII is considered the standard Amiga art package, and the latest upgrade feature some sophisticated but easily mastered animation functions which work in all resolutions.

Using brushes (clips of artwork) it can spin and move them around the screen over a chosen number of frames, and can also move them in and out of the screen to simulate perspective.

This is simply like moving a flat piece of paper nearer or further from your point of view, as the brushes have no depth. Nevertheless, used in conjunction with the art package's superior attributes - things such as stencil or drawing effects carried over a set number of frames - the animation possibilities are vast. They are only moderately difficult to master and give very satisfactory results.

Similarly PhotonPaintIII includes a rudimentary animation feature, only in this case you are using Hold and Modify images (something which DPIII has totally overlooked). Pages can be flipped through, and the whole range of delicate artistic functions brought to play in this 4096 colour mode.

ZOETROPE is an outstanding animator and special effects generator. This is a catch-all program which blends 2-D animation (movement, flips, spins and so on) with a number of effects which can occur over a series of frames.

Control is sometimes cumbersome, but the effort is worthwhile. The version available to us is in NTSC format, so unless an upgrade to the PAL standard is in the pipeline, this lowers Zoetrope's usefulness as a full-screen video tool, and in any event the resolution is unsatisfactory for video transfer.

AEGIS ANIMATOR was the first software I ever bought for my Amiga (years ago). It uses a full intuition menu structure, which is simple, but has been superseded by more powerful utilities. Still, its ability to use bitmap graphics alongside metamorphic animation makes it ideal for some purposes, and a program I enjoy using and developing.

In a similar way to *FANTAVISION* (which has the edge now with the recent release of a PAL version) the program can transform a coloured shape into another by working out the

Sculpt Animate

Turbo Silver 3D

tweens (in-between images) and displaying a smooth transition.

Fantavision does score in this genre through the introduction of sound, which can add greatly to a desktop presentation. Control is simple, but again it lacks the resolution if you intend serious video work.

The Hash stable of *ANIMATOR* programs has been ticking over quietly for some time now, building up into a useful library. They comprise of individual items of software geared to a specific job, so it is a good idea to check out your needs, and get the item which best fits the bill.

There is the Editor, which allows cutting and splicing of pre-saved animation sequences of various resolutions; the Effects module which can spin, fade, scroll and wipe images; The Flipper is a very basic pencil test utility for flipping through a selected series of frames, while Rotoscope is a little more specialised, allowing animation rendering on pre-defined layers - a sort of stencil utility.

THE DIRECTOR has long been a favourite of mine. It is not easy for the first-time user, requiring a grasp of Basic-type programming, thanks to its own sophisticated in-built language. It nevertheless is a wonderful tool for creating stand-alone displays, and can access the blitter with a simple command.

Using this, you can save a single screen of multiple images, then blit each one in sequence onto the display screen. Long movies, with sophisticated mouse-pointer choices can be undertaken, opening the way for animated purpose-built tutorials or mini-adventures (I have sen a multiple-disk version of Star Trek running under The Director, which was a real treat).

A toolkit has been released for the program, which goes a long way to opening up the complexities of a fine, but under-rated animation program. Only for the computer literate, though.

Special effects really are special in *ANIMAGIC,* a video worker's dream. The program works on stationary art screens imported from an art package, then prepares an animation by working one of many transitions on them.

These including effects such as dripping paint (the screen appears to be poured down), a page turn to reveal another screen underneath, confetti swarm (where small pieces of the image flood in to create the completed image) and many more.

Zoetrope

Animation sequences themselves may be used as the basis for a transition, so in the case of a revolving cube, an animation could be used as a facet, moving itself while each face revolves.

The rendering time can be quite hefty as each image of the animation is worked out, drawn and saved to disk, but the end results are dazzling, if on the short side, and highly professional.

MOVIESETTER, on the other hand, is a fun piece of home software with which you can play at being Walt Disney and animate characters over scrolling backgrounds. There is a more serious potential for the program - business presentations and cartoon-style video work, but it is clear by the marketing strategy of the product that enjoyment and entertainment are the targets - and both are well hit.

As far as true 3D animation is concerned, the programs which top the genre are *SCULPT-ANIMATE 4D* and *TURBO SILVER 3D.* These programs require a degree of dedication to master - there is no quick gratification as there is in the 2D programs.

The results can be truly remarkable, though time-consuming. A specialist field with many dedicated devotees. My efforts in this area have been both rudimentary and disappointing apart from whizzing 3D text around for video animation - something at which Sculpt is unsurpassed.

Another name to watch out for here is Forms in Flight 2, a clever little 3D program which for some reason has not achieved the high profile of the big boys.

There are no hard and fast best-buys in the field of animation. If the software fits your needs, then spend the cash. The trick is to know what you want, and to know what a particular product is capable of. To end on a personal note, my workhorse for professional work is still DeluxePaintIII in high-res (thanks to the 1 meg of chip RAM I now have). But for special effects it would be Animagic.

Thanks to DIGIPRO Ltd. of Southampton for supplying most of the software for this article. Contact them on (0703) 702743. *P.L.*

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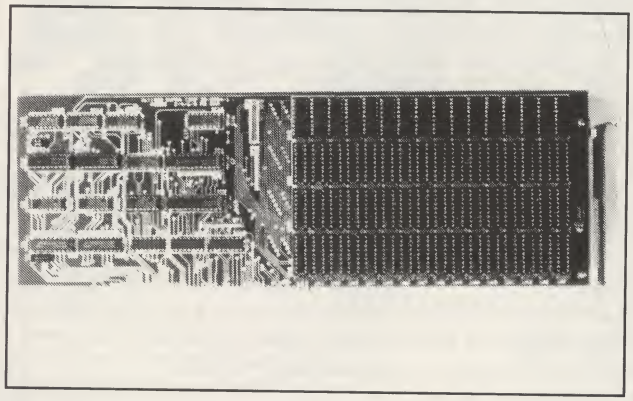

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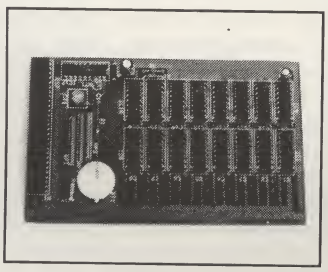

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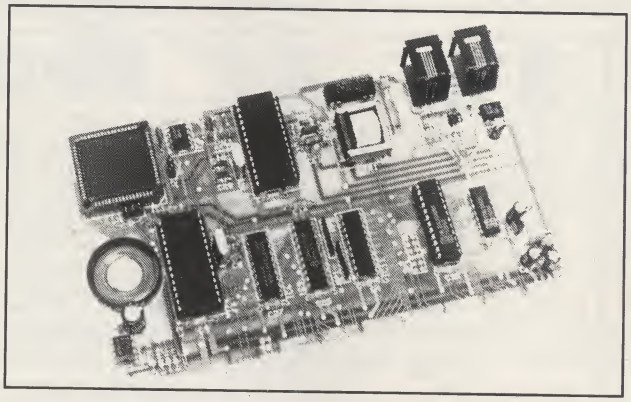

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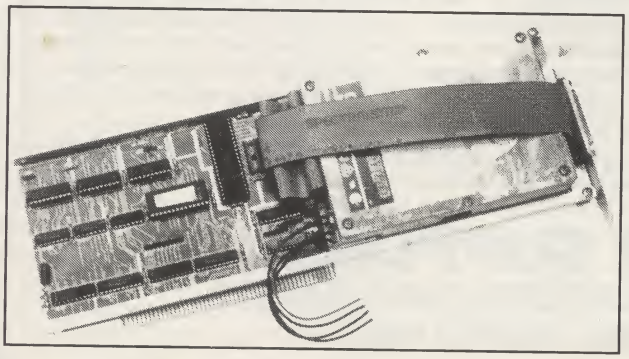

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Amiga Answers

Yuri Large tracks down the tips that keep you on top!

Dear AUI,

I have recently purchased an Amiga 500, monitor and Star LC-10 colour printer. I keep being asked to design letterheads, but am having problems finding a program which will cope with long letterheads. My program Deluxe Print hasn't the room, and Kindwords v2.0 has problems aligning different fonts on the right hand side of the page. Do I need a page-setting program, and if so, which one? I bought my copy of Superbase Personal one day before I read your review. I agree it is an excellent program, but I am having problems printing records. If I use the set printer option, it prints the fields first and then the record, but splits words between lines making it look nonsense. If I use screen dump, it prints the screen in a readable format, but if I scroll it prints the last part of the first page again. The only way I can stop the printer when scanning through records is to close the file.

Your comments (in plain English please!) would be appreciated.

Yours sincerely,

Alison Bell, Cumbria

Dear Alison,

If you wanted to design a long letterhead using Deluxe Print, you could use the poster option rather than the letterhead option. This would then allow you to use the whole page if you wanted! However, I will admit that Deluxe Print is not the world's most flexible program. A DTP program may well be worth considering, although in my opinion you will probably have to spend in the region of 150 pounds before you get better results than you can already achieve with Deluxe Print. My recommendation would be Pagestream, which despite all its warts is still a very powerful program.

In order to produce customised output from Superbase Personal you will need to use the Query process. This allows full manipulation of your data, from selecting the particular fields to be printed, to asking for a count of the items printed. This is covered in some detail in the manual, I hope this pointer gets you on the right road.

Dear AUI,

I am a programmer currently doing a computer course at Tech and have started to learn Assembly and C. However, learning these on one's own does take up time.

I would also like to express my views on piracy. Firstly, prices of software, and games in particular, are over expensive and this is why there is so much piracy. However, it's not so much the software houses' fault, but more that of the high street shops and mail order businesses that sell them. A possible solution for games would be when a game has been out for a couple of months to put the price down. I know that this works because I know a shop that does it, but for non-games software. What about an English-based shareware group? While I can see that it is necessary for people to write about their problems, I would also like to see more people write in with their views, as I am sure more Amigans would enjoy reading and answering them. I suggest this because after one and a half years of Amiga mags and after reading the views of letters you get in Metal mags, I would enjoy people's thoughts on the Amiga world. Especially as I have had my Amiga for over a year and a half. I am sure that you would agree with me. So, come on you lot, get your act together.

I would also like to comment on your magazine. It has a very good and varied content, so keep up the good work.

Anonymous, Surrey

Dear Anonymous,

Firstly could I just say that we do prefer people to own up to their letters! With regard to your ideas on piracy, I am sure that you are right about reducing the prices to reduce the copying. A few of the software houses are taking up this idea already, for example Klassix who have just released a few old games at less than half price. However, I must lay the blame for the prices in the right place - all the prices of software are dictated by the software houses that release them and not the shop that sells them.

The UK Amiga User Group and ICPUG already run PD/Shareware libraries for the Amiga, however an increased awareness of these would be needed for them to become useful.

Finally, I could not agree with you more, we would love to see more comments and views from all you readers out there.

Dear AUI,

A word of warning to all MEMACS users. The version of MEMACS released with the WB1.3 operating system does not alter the archive bit on the file just edited. This means that if you back up your hard disk incrementally, any files edited using MEMACS will not get backed up until you do the next full backup. Anyway, that's what happened to me. If anyone has any more information on this can they please share it.

Thanks.

Tony Blake, Lincoln

Dear Tony,

Thanks for this information, I am sure that it will save someone somewhere hours of work.

For those of you that don't understand what the above means here is an explanation. Each file stored using AmigaDOS 1.3 has seven protection bits attached to it, these are always present just like a filename. Each protection bit can be turned either on or off using the AmigaDOS "PROTECT" command. When a particular bit is turned on it is said to be "set". The seven different protection bits are used to tell AmigaDOS different things about each file. For example if the "deletable" bit is not set then the file cannot be deleted. The other six protection bits are: script, pure, archive, read, write and executable. To view the settings for each protection bit use the "LIST" command.

Three of these protection bits are new to 1.3, and they are "script", "pure" and "archive". If the "pure" bit is set, it means that the file can be made "resident" without fear of invoking the dreaded guru. If the "script" bit is set and presuming that the file is a text file containing AmigaDOS commands, then it can be executed by just typing the filename without the use of the AmigaDOS "EXECUTE" command. Finally, there is the archive bit. When the archive bit is set, it means that the file in question has remained unchanged since it was last backed up. Therefore, the archive bit can be used to do a selective backup, i.e. you need only backup the files that have been changed since you last backed up. One program that utilises the archive bit is Quarterback, an excellent hard disk backup utility.

For the principle of the archive bit to work properly, any program that changes a file MUST turn the archive bit to off as it does so. Otherwise, when a program such as Quarterback is used to do a selective backup, files which have been changed using this naughty version of MEMACS will be omitted from the process. You can imagine the anguish that could be caused, so watch out for your archive bits!

Amiga Answers

Yuri Large tracks down the tips that keep you on top!

Dear AUI,

I am thinking of buying an Amiga A500 computer. There are some questions about colour monitors to be raised.

I will be using the Amiga mainly for game-playing and using grsaphics packages plus some word-processing.

I want to buy the very best colour monitor in terms of high resolution and making full use of the Amiga A500's multi-colour graphics modes.

So far, to my knowledge, there are four colour monitors that I know will work with the Amiga A500: 1) Philips CM8833 2) Philips CM8852 3) 1084(S) 4) NEC Multisync II.

Which is the best colour monitor in terms of resolution and colour? Are there any other good colour monitors that will work with the Amiga A500? Do I require a special lead, etc? I would be grateful for some reply.

Yours sincerely,
Helen Mays, London

Dear Helen,

The first two monitors that you have mentioned are both made by Philips to almost exactly the same specification. They both have a slotted dot pitch of 0.42 with a 600 line resolution from top to bottom. The major diferences between the two are: (i) the style of the box used to encase the tube, (ii) the inputs available on the back - the 1084 has extra inputs enabling it to output the signal from a Commodore 64 or 128.

(iii) the 1084S is no longer available, therefore the 8833 gives stereo audio and the 1084 will not.

So the choice between these two is difficult, as there is little to separate them. However, the 8833 can be found cheapest at the moment and for the budding Amiga enthusiast its stereo sound is a big plus.

The 8852 is another Philips monitor. It has a better specification - dot pitch of 0.39 and 700 line resolution. However, it does suffer from mono sound output. It costs in the region of 300 pounds, which makes it about 70 pounds more than the 8833. In my opinion the extra resolution is wasted on the Amiga, as in this case the performance of the monitor outstrips that of the computer, although the fact that it uses true dots to display the output rather than slots makes it somewhat easier on the eyes. All these monitors should be supplied with leads for the Amiga.

Finally, there is the NEC Multisync II which in monitor terms is a cut above the other three. You will need a special lead to run it with the Amiga. It is worth considering this monitor if you plan to do any CAD or heavyweight graphics work in the future. Also, it will be compatible with the new display modes that will be available using ECS. However, the extra expense is only worth considering for serious use.

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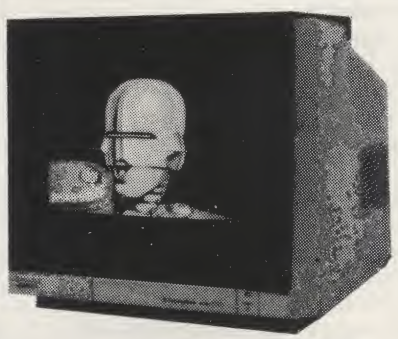

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continued from page 112

```
Screen_ptr dc.l 0

Plane1_ptr dc.l 0

Plane2_ptr dc.l 0

Plane3_ptr dc.l 0

Plane4_ptr dc.l 0

;-------------------------------------------------------------

QuadScreen
 dc.w 0,0  ; XY origin
 dc.w 320,200  ; width, height
 dc.w 4  ; depth
 dc.b 8,1  ; detail, block pens
 dc.w NULL  ; display modes
 dc.w CUSTOMSCREEN ;screen type
 dc.l NULL  ; screen font
 dc.l QuadScreenName ; screen title
 dc.l NULL  ; gadgets (N/A)
 dc.l NULL  ; custom BitMap structure
QuadScreenName
 dc.b _Quick and Dirty..._,0
 cnop 0,2

;-------------------------------------------------------------

Palette
 dc.w $0000,$0008,$0029,$003A,$015A,$017B,$02AC,$02CD
 dc.w $0FA0,$0E80,$0C60,$0B40,$0A30,$0920,$0710,$0600

Numcols  equ *-Palette

;-------------------------------------------------------------



/* This is where most of the work is done but try & keep the routine small
by invoking other functions as well.

void doIDCMP(){
   struct IntuiMessage *message;
   struct Gadget *GadgetPtr;     /* Gadget event requires a pointer */

   WaitPort (Window -> UserPort);
   MinX = 20;                    /* Do these in case user has re-sized   */
   MinY = 10;                    /* window in a fit of inspirational     */
   MaxX = Window -> Width  - 20; /* something or other. This effectively */
   MaxY = Window -> Height - 10; /* puts a no-draw border around window. */

   /* See text for explanation of this part of program! */

   while (message = (struct IntuiMessage *) GetMsg (Window -> UserPort)){
      switch (message -> Class){
         case MOUSEBUTTONS:
            if (message -> Code == SELECTDOWN){
               mode = DRAWIT;
               ModifyIDCMP (Window, IDCMPFLAGS
 MOUSEMOVE);
               StartX = message -> MouseX;
               StartY = message -> MouseY;
               break;
            }
            else if (message -> Code == SELECTUP){
               mode = STOPIT;
               if (DrawMode == FREELINE){
                  doLine (message -> MouseX, message -> MouseY);
               }
               OldX = OldY = 0;
               ModifyIDCMP (Window, IDCMPFLAGS);
               break;
            }
         case MOUSEMOVE:
            if (mode == DRAWIT){
            switch (DrawMode){
               case FREEDRAW:
                  doDraw (message -> MouseX, message -> MouseY);
                  break;
               case FREELINE:
                  doLine (message -> MouseX, message -> MouseY);
                  break;
               }  /* end of switch (DrawMode) */
            }
            break;
         case CLOSEWINDOW:
            CloseStuff ();  /* I would like to make it known that I am */
            exit (TRUE);    /* not respnosible for speling errurs in   */
```

continued on page 126

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```
                break;          /* any way, shape or form */
            case GADGETUP:
                GadgetPtr = (struct Gadget *) message -> IAddress;
                doGadgets (GadgetPtr);
                break;
            default:
                break;
        } /* end of switch    */
    ReplyMsg (message);
    }    /* end of while     */
}       /* end of doIDCMP() */

/* Now sort out the gadgets & see what_s been selected */
void doGadgets (GadgetPtr)
    struct Gadget *GadgetPtr;{
    static UBYTE BigLittle = 1; /* Flags the current size of the window */
    switch (GadgetPtr -> GadgetID){
        case STRETCH:
            if (BigLittle){
                MoveWindow (Window, TOPLEFTX - (Window -> LeftEdge),
                                    TOPLEFTY - (Window -> TopEdge));
                SizeWindow (Window, WINBIGX  - (Window -> Width),
                                    WINBIGY  - (Window -> Height));
                WindowToFront (Window);
                BigLittle = 0;
            }
            else {
                SizeWindow (Window, WINSMALLX - (Window -> Width),
                                    WINSMALLY - (Window -> Height));
                MoveWindow (Window, BOTLEFTX - (Window -> LeftEdge),
                                    BOTLEFTY - (Window -> TopEdge));
                BigLittle = 1;
            }
            break;
        case FREEDRAW:
            DrawFree.Flags = GADGFLAGON;
            LineFree.Flags = GADGFLAGOFF;
            DrawMode = FREEDRAW;
            RefreshGadgets (&Stretch, Window, NULL);
            break;
        case FREELINE:
            LineFree.Flags = GADGFLAGON;
            DrawFree.Flags = GADGFLAGOFF;
            DrawMode = FREELINE;
            RefreshGadgets (&Stretch, Window, NULL);
            break;
        case COLOUR0:
        case COLOUR1:
        case COLOUR2:
        case COLOUR3:
            DrawColour = GadgetPtr -> GadgetID;
            SetAPen (WinRP, DrawColour);
            break;
        default:
            break;
    } /* end of switch */
}    /* end of doGadget () */

void doDraw (MseX, MseY)
    SHORT MseX, MseY;{   /* Mouse coordinates passed by doGadgets() */
    if ((MseX > MinX && MseX < MaxX) && (MseY > MinY && MseY < MaxY)){
        WritePixel (WinRP, MseX, MseY);
    }
}

void doLine (MseX, MseY)
    SHORT MseX, MseY;{
    static USHORT LineDrawn;
    SetDrMd (WinRP, COMPLEMENT);
    if ((OldX && OldY) && LineDrawn) { /* Erase old line */
        Move (WinRP, StartX, StartY);
        Draw (WinRP, OldX, OldY);
    }
    SetAPen (WinRP, DrawColour);
    if (mode == STOPIT) SetDrMd (WinRP, JAM1);
    LineDrawn = 0;  /* Since this is only a local variable, it isn_t */
                    /* as important to use a macro. */
    if ((StartX > MinX && StartX < MaxX) && (StartY > MinY && StartY <MaxY)){
        if ((MseX > MinX && MseX < MaxX) && (MseY > MinY && MseY < MaxY)){
            Move (WinRP, StartX, StartY); /* The line is within legal limits */
            Draw (WinRP, MseX, MseY);     /* for the window so draw it!      */
            OldX = MseX;                  /* Set the Old variables so we can */
            OldY = MseY;                  /* erase the line */
            LineDrawn = 1;
      }  /* End of if */
    }    /* Ditto     */
}       /* End of function */
/* End of program */
```

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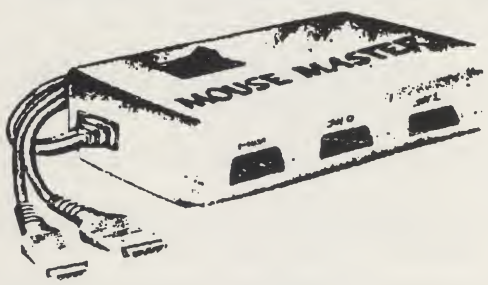

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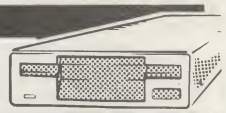

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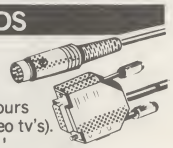

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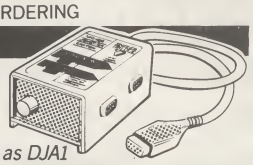

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Stuart Williams introduces new Amiga users to the concept of Public Domain and Shareware Software

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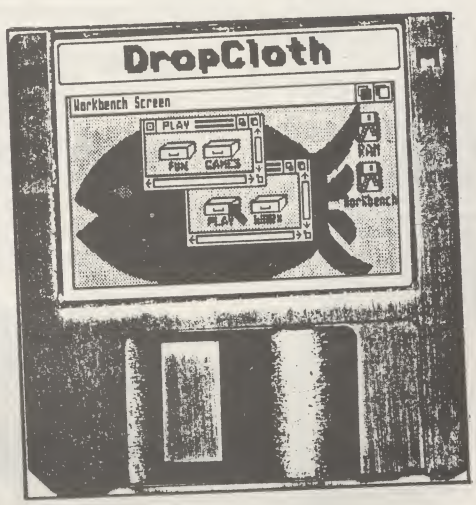
Since many of you reading this will be new Amiga users looking for something to feed your new electronic pal, this month's feature is an introduction the world of Public Domain software - what it is, how much it costs, and where to get it!

What is Public Domain Software? It's easy to get confused when magazines, PD libraries and user groups all seem to call it by different names - PD, Shareware, Freeware, User Supported Software, etc etc! Behind the jargon there are two types of software commonly lumped together under the heading 'PD'; actual Public Domain software, and 'Shareware', which are quite distinct.

Public Domain software is software which is freely and legally copiable and distributable. It is sometimes also called 'Freeware'. This kind of program has been written for fun, to show off the

"if there are any problems with the software, you have no comeback against the author or the PD library"

programmer's talents, or simply because a commercial equivalent does not exist or is prohibitively expensive. The programmer has generously released his software into the 'Public Domain', where anyone can copy it freely, pass it on to a friend, or redistribute it, yet the copyright remains with the original author. What this means is that, unlike commercial software, 'PD' programs may be passed on at will from user to user, without charge, but if the program is to be commercially sold then permission must be obtained from the author, and royalties paid. You also occasionally come across non-copyright PD software, but as the standard of Amiga PD improves, this is becoming less common. The quality of Amiga PD is variable, from the quick and dirty to programs of commercial quality or better, but it is improving all the time.



What is available in the Public Domain for the Amiga? Well, enough utilities and packages of all kinds to keep you collecting them for years to come - from the sublime, ie complete spreadsheets, art programs, animators or wordprocessors, to the ridiculous, for example silly workbench hacks designed to make your display crumble into dust and fall to the bottom of you screen! The majority of programs are small utilities designed to do a particular job, such as improving the facilities of the CLI, or aids to the programmer (utilities for the C programmer are common). In addition, hundreds of graphics and sound files, many of extremely high quality, are available, as well as loads of jaw-dropping demonstration programs or 'demos', guaranteed to make all your non-Amiga owning friends (I suppose there must be some left!) turn green with envy!

You will also find some excellent games in the Public Domain - a subject close to the heart of most Amiga users! Probably the most useful type of PD program available is the Virus Killer - if you never acquire another program from the Public Domain, you must at least do yourself the favour of getting a copy of VirusX 3.2, to keep your Amiga free from these electronic infestations created by warped individuals!

Shareware

The second kind of freely distributable software is 'Shareware', also sometimes called 'User Supported Software'. Like PD, the Shareware concept is American in origin; Shareware software is commercial programs distributed by the users! This may sound like a strange idea, but the principle behind it is this; you are allowed to pass on the program to other users without charge, as long as you do not sell it commercially. You may evaluate the software for a limited period. If you like the program and intend to use it, then you are morally obligated to send a registration payment direct to the author, who will often then supply you with the latest version, often with a printed manual. Generally, Shareware packages offer more features, greater power and higher standards of programming quality and polish than Public Domain Software, though this is not always the case.

continued on page 136

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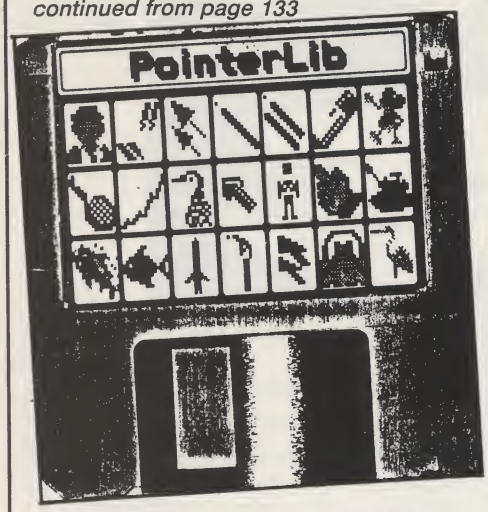


In the United States, a few Shareware authors on the IBM PC have become millionaires through this scheme, since IBM Shareware commonly offers the features of far more expensive commercial packages for much lower prices - for instance, the equivalent of a £250 spreadsheet for as little as £40. I don't know of any Amiga Shareware millionaires yet, so be sure to let me know if you are one! Top class Shareware can attract many registrations, and since the author does not have to pay for expensive distribution and advertising or support middlemen, it can be a lucrative way of selling. On the other hand, while Shareware often rakes in the dollars in the USA, due to its larger population and therefore potential market, it has been less successful in Europe and the UK, where registrations are relatively few. (Or could the Americans be more honest?) Like PD, there are hundreds of Shareware programs available. Most Shareware is targeted at specific 'serious' applications, but you will also find some excellent Shareware games, especially in the adventure, wargame and strategy arenas. Shareware is of course quite definitely copyright!

PD Sources

How do you get your hands on all this software? There are four main sources; friends; User Groups or computer clubs; Bulletin Boards; and via the Public Domain Libraries.

If you have a friend with a PD and Shareware collection, or are a member of club, then all you need is to provide your own blank disks, and you need pay no more, unless you decide to register your Shareware! If you have a modem, then commercial or amateur bulletin boards will generally make no charge for downloading PD from their systems, and indeed the commercial system, Compunet, is a great source of the best PD for subscribers. If you are using any Bulletin Board, you should of course remember to upload PD programs and messages in return - 'troughies' who do nothing but download software and contribute nothing to a board are highly unpopular and may have their access privileges cut (ouch!). Bear in mind the telephone bills you will incur, as downloading large programs can take many minutes.

The sources of PD and Shareware programs which most people will be familiar with from the pages of this magazine are the commercial PD Library services. There are many small companies who have collected huge piles of disks with thousands of programs to choose from; for a small fee, they will supply you with a copy of the disk that you want, by mail order. These companies often branch out into other areas, as with George Thompson Services of Arran, Scotland, who are now importers for the M.A.S.T range of hardware add-ons for the Amiga.

Fish Disks

Most PD Libraries are based on the Fred Fish collection of PD software disks. Fred, who is an American, has done a great deal to promote the idea of freely distributable PD and Shareware software all over the world, and is a great friend to Amiga users. His collection comprises hundreds of disks, and many rival collections have been formed from selections made from the famous Fish disks - popular examples include the F.A.U.G., T-BAG, and AMUSE libraries, and indeed many British PD libraries are now putting together their own compilations. Often, special packs of PD software are available on several disks, on a particular theme such as business, programming, education, graphics, music etc, and these are worth acquiring, as they usually contain the best examples of this kind of software, and they save the trouble of searching though the huge lists of programs provided by the libraries!

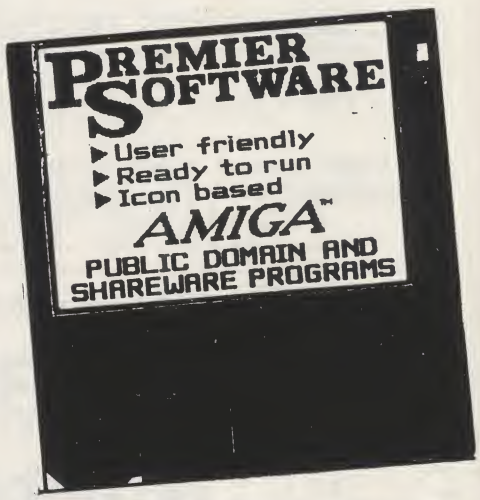
Most of the PD libraries charge for their service, but this does not go against the spirit of free, non-commercial software as long as the charges are not excessive. Generally, a fee of up to £3 per disk is acceptable, which includes the cost of the disk itself, and postage - I am sure you will agree this is a small price to pay for software. You will often find that special 'theme packs' of PD and Shareware programs, comprising several complimentary disks of software designed to cater for a specific need, are frequently cheaper than buying the equivalent disks separately. Naturally, if there are any problems with the software, you have no comeback against the author or the PD library, since you have not been sold the software, but have paid merely for the disk itself and the copying fee. On the other hand, most PD libraries are run by friendly, helpful people who are fans of the Amiga and are willing to give basic advice if they can - just don't expect the backup you pay for when you spend wads of cash on commercial software!

If you want to dip your toes in the PD ocean, why not invest in one of the starter packs that most PD libraries offer? These usually include a good selection of disks from the various PD collections, including utilities, applications, and fun programs such as demos or games, plus a list of the rest of the library, either on disk or in printed form.

Once you've whetted your appetite for PD, you will want to find out what else is out there, so do not forget to read AUI's Public Domain feature every month, where we regularly examine the best Public Domain and Shareware programs in depth. Armed with our PD reviews and your library catalogues, the world of freely distributable Amiga software is your oyster!

There is something for everyone in Public Domain and Shareware software - so why not give your Amiga a present that won't give your bank manager a heart attack?!

S.W.



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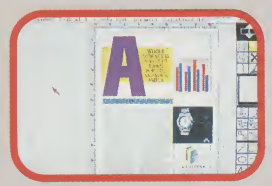

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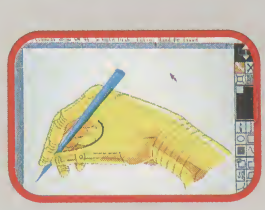

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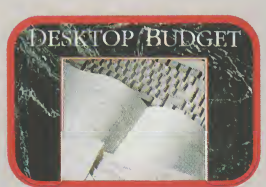

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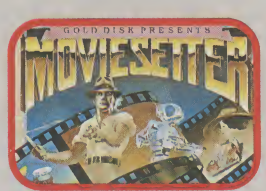

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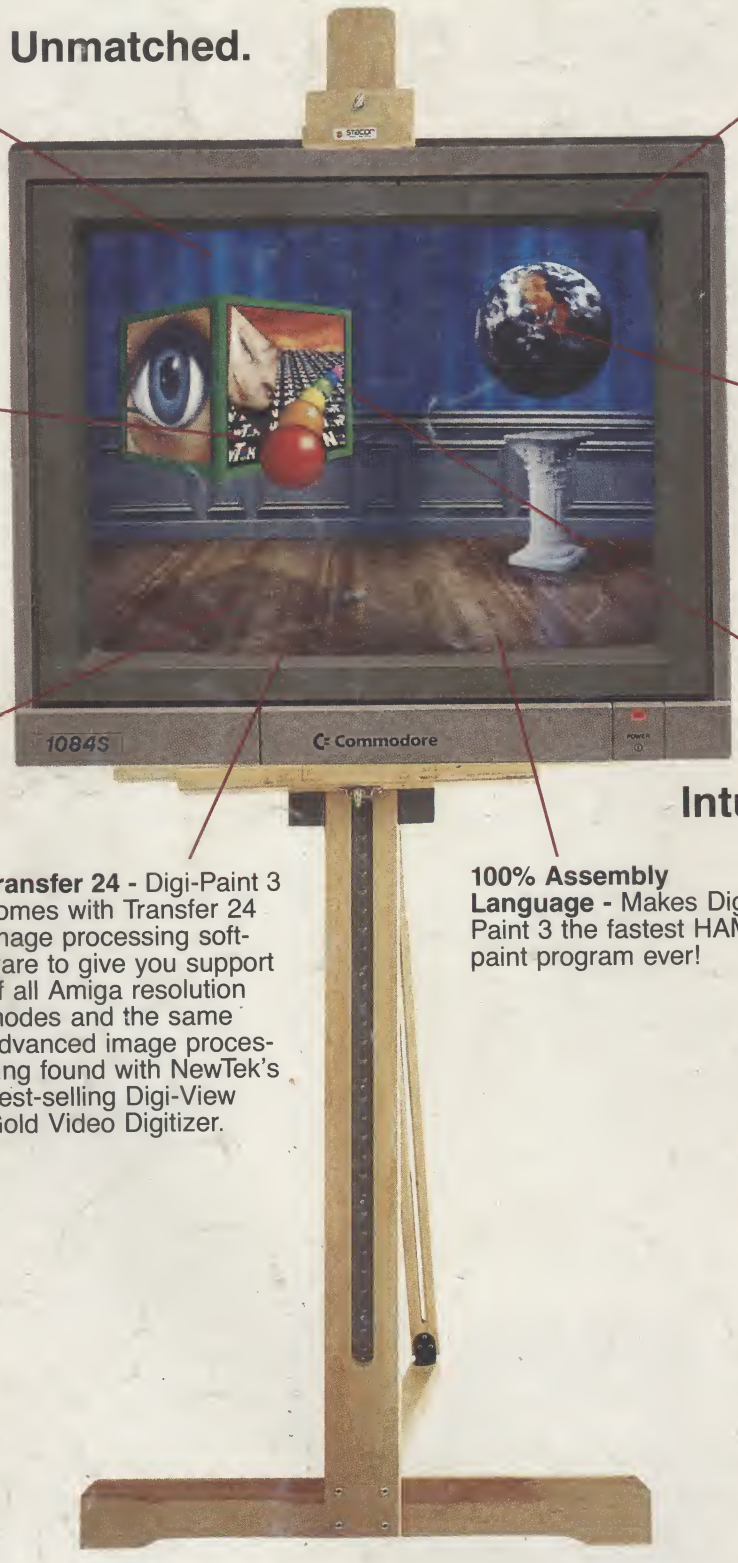

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